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Catch and Effort Statistics of the Canadian Groundfish Fishery on the Pacific Coast in 1989

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Fisheries and Aquatic Sciences 1779

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by

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ABSTRACT

Rutherford, K.L. 1991. Catch and effort statistics of the Canadian groundfish fishery on the Pacific coast in 1989. Can. Tech. Rep. Fish. Aquat. Sci. 1779: 88 p.

Catch and effort statistics for the Canadian groundfish fishery (excluding halibut) on the Pacific coast in 1989 are presented. Statistics are shown by major areas, minor areas, and Internationa North Pacific Fisheries Commission area in metric tonnes (t). Total domestic landings in 1989 were 5% below the total for 1988. Most of the catch (84%) was taken by trawl gear. The main species landed were Pacific cod, Pacific hake, Pacific ocean perch, yellowtail rockfish, sablefish, lingcod and silvergray rockfish.

Joint venture and foreign fisheries along Canada's west cost caught 97,679 t of Pacific hake in 1989.

Key words: groundfish, Pacific coast, catch statistics, effort statistics

RÉSUMÉ

Rutherford, K.L. 1991. Catch and effort statistics of the Canadian groundfish fishery on the Pacific coast in 1989. Can. Tech. Rep. Fish. Aquat. Sci. 1779: 88 p.

Ce rapport présente les statistiques sur les prises et les efforts des pêches canadiennes de poissons de fond (sauf le flétan) sur la côte du Pacifique, en 1989. Les statistiques sont indiquées en tonnes métriques (t), par secteur principal et secondaire et par secteur de la Commission internationale des pêches du Pacifique nord. En 1989, le total des quantités débarquées au Canada était inférieur de 5% à celui de 1988. La plus grande partie des captures (84%) a été prise au chalut. Les principales espèces débarquées étaient la morue du Pacifique, le merlu du Pacifique, le sébaste à longue mâchoire, le sébaste à queue jaune, la morue charbonnière, la morue-lingue et le sébaste argenté.

Les pêches conjointes et les pêches étrangères ont capturé 97 679 t de merlus du Pacifique le long de la côte ouest canadienne, en 1989.

Mots clés: poisson de fond, côte du Pacifique, statistiques sur les prises, statistiques sur l'effort

INTRODUCTION

The Canadian fishery for groundfish along Canada's west coast involves many species of demersal fishes, the majority of which are caught by bottom and midwater trawls. The remaining catch is taken by trap, longline, handline, and troll. Excluding halibut, these domestic groundfish landings contributed an average of 46,039 metric tonnes (t) to the annual fish production of Canada during 1979-88. The total landings of major groundfish species, caught by all types of gear from all areas on the Pacific coast during 1979-89 are shown in Table 1. Figure 1 illustrates total groundfish landings from 1979-89.

The Biological Sciences Branch, Pacific Biological Station, Nanaimo, B.C., maintained port liaison officers at Vancouver, Steveston, and Prince Rupert during 1989. These persons conducted interviews with captains of trawl and trap vessels to collect information on effort expended for groundfish catches, by species, area and depth as well as other pertinent data. The landings not covered by these interviews were obtained from the sales slips collected by the Statistics Division of the Fisheries Branch in Vancouver. All available 1989 data are included in this report. While changes are rare, individuals using these data for analyses should refer to the author for confirmation.

Total 1989 domestic landings of 63,579 t were 38% above the 1979-88 mean and 5% below the 1988 level. Pacific ocean perch and other rockfish species were the dominant species landed, accounting for 39% of the total catch. There were increases in landings of Pacific hake (8,682 t), lingcod (3,930 t), Dover sole (2,149 t), rock sole (2,066 t), English sole (1,041 t) and petrale sole (952 t). Landings of other rockfish (18,437 t), Pacific cod (9,149 t), Pacific ocean perch (6,004 t), sablefish (5,493 t), dogfish (2,780 t) and pollock (443 t) showed decreases from 1988 catches.

In 1989, joint-venture and foreign fisheries were conducted along the British Columbia coast by Poland, the U.S.S.R., and Japan. These fisheries caught 97,679 t of Pacific hake, 9% more than the amount taken in 1988.

This portion of the document is the traditional report of landings (t) by species, by discrete domestic (minor) fishing areas and by larger United States-Canadian (major) areas, commonly called Pacific Marine Fisheries Commission (PMFC) areas.

Table 1. Total Canadian landings* (t) of groundfish by species, taken from all areas on the Pacific coast, 1979-1989.

Species	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1979-88	1989
English sole	1,069	1,244	1,500	559	532	812	692	452	755	879	849	1,041
Rock sole	1,874	1,843	1,059	745	668	525	430	454	887	1,960	1,045	2,066
Petrale sole	202	222	290	367	439	417	336	416	445	790	392	952
Dover sole	861	1,273	1,245	914	871	1,148	963	1,167	633	1,281	1,036	2,149
Rex sole	203	145	190	74	49	219	205	87	83	145	140	140
Starry flounder	296	118	198	168	66	170	66	54	65	110	131	123
Turbot	1,826	1,448	946	525	323	369	764	895	1,193	375	866	609
Other flatfish	59	57	183	220	199	141	161	215	232	147	161	50
Pacific cod	9,554	8,703	6,708	4,810	4,505	3,465	2,342	3,650	13,917	11,015	6,867	9,149
Lingcod	2,098	2,151	2,467	4,162	3,755	3,688	5,668	3,827	3,591	3,462	3,487	3,980
Sablefish	2,031	3,793	3,888	3,976	4,414	3,855	4,275	4,668	4,719	5,770	4,139	5,493
Pollock	3,387	2,201	1,251	924	1,070	800	1,895	577	1,270	1,111	1,449	443
Hake	818	606	5,691	2,826	3,122	4,600	6,055	6,802	13,275	6,054	4,985	8,682
Ocean perch	2,819	5,290	5,103	5,983	5,655	6,698	6,069	5,914	6,335	6,929	5,680	6,004
Other rockfish	5,962	4,476	4,857	5,093	7,024	8,512	11,709	19,040	18,177	20,399	10,525	18,437
Misc. species	215	303	266	141	156	175	192	245	344	353	239	172
Hagfish	-	-	-	-	-	-	-	-	-	66	-	829
Dogfish	4,757	4,547	1,151	3,875	3,274	2,510	2,815	3,289	3,801	5,483	3,550	2,780
Animal food	214	191	42	65	94	161	309	255	188	130	165	127
Reduction	240	528	302	450	321	244	214	175	210	581	327	353
Total	38,485	39,139	37,337	35,877	36,537	38,509	45,160	52,182	70,120	67,040	46,039	63,579

*Does not include catches from joint-venture or foreign fisheries, see Table 53.

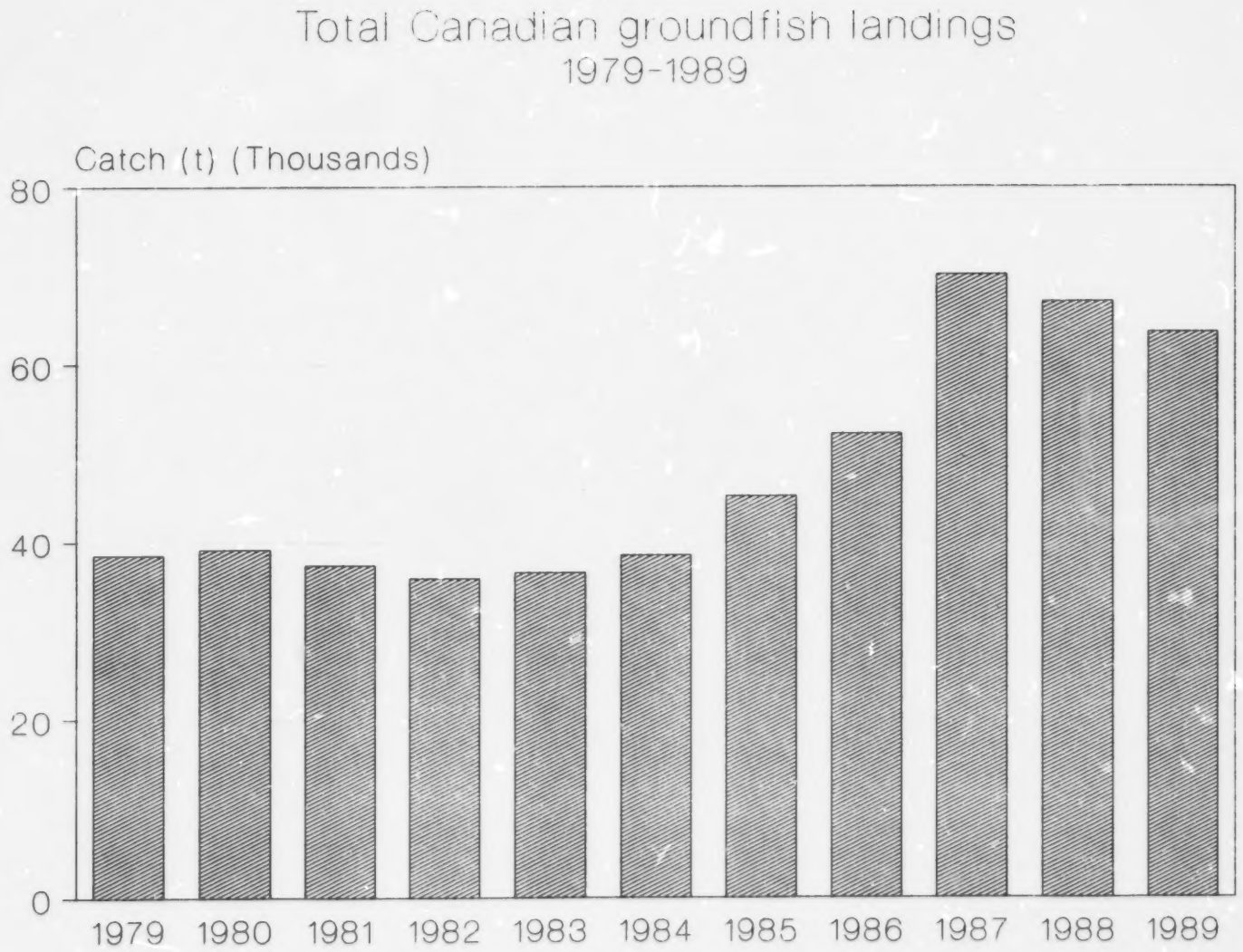
Total Canadian groundfish landings
1979-1989
Catch (t) (Thousands)
80
60
40
20
0
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989

Figure 1.

MAJOR STATISTICAL AREA DIVISIONS

Standardization between Canada and the United States in reporting of groundfish catches on the Pacific coast has resulted in assignment of catches to certain major statistical areas. In the United States these international areas are used by the Pacific Marine Fisheries Commission in their annual summaries of catch statistics. Figure 2 illustrates the major statistical areas off the British Columbia and gives their numerical designation. The following is a complete description of the boundaries of these areas.

AREA 3B--NORTHWEST WASHINGTON COAST

From latitude 47°20'N to a line bearing 220° True from the mid-point of the Bonilla-Tatoosh line and crossing said parallel of latitude. This area includes the Quillayute and Umatilla Reef grounds and the shallow waters off Cape Flattery.

AREA 3C--SOUTHWEST COAST VANCOUVER ISLAND

From the northern boundary of Area 3B to a line bearing 200° True from Estevan Point southward to the 49° parallel of latitude, thence westward along said parallel. This area includes the Cape Flattery Spit, the Swiftsure Bank, La Perouse Bank (Big Bank or 40 mile Bank), the Cabbage Patch, the Firing Range, the Lennard Island and Sydney Inlet grounds, and the inshore waters of Barkley Sound.

AREA 3D--NORTHWEST COAST VANCOUVER ISLAND

From the northern boundary of Area 3C to latitude 50°30'N. This area includes the Nootka, Esperanza, and Kyuquot grounds as well as the Estevan deep ground.

AREA 4A--PUGET SOUND

The United States territorial waters inside the Bonilla-Tatoosh line including the Juan de Fuca Strait and Puget Sound. There is no Canadian catch from this area.

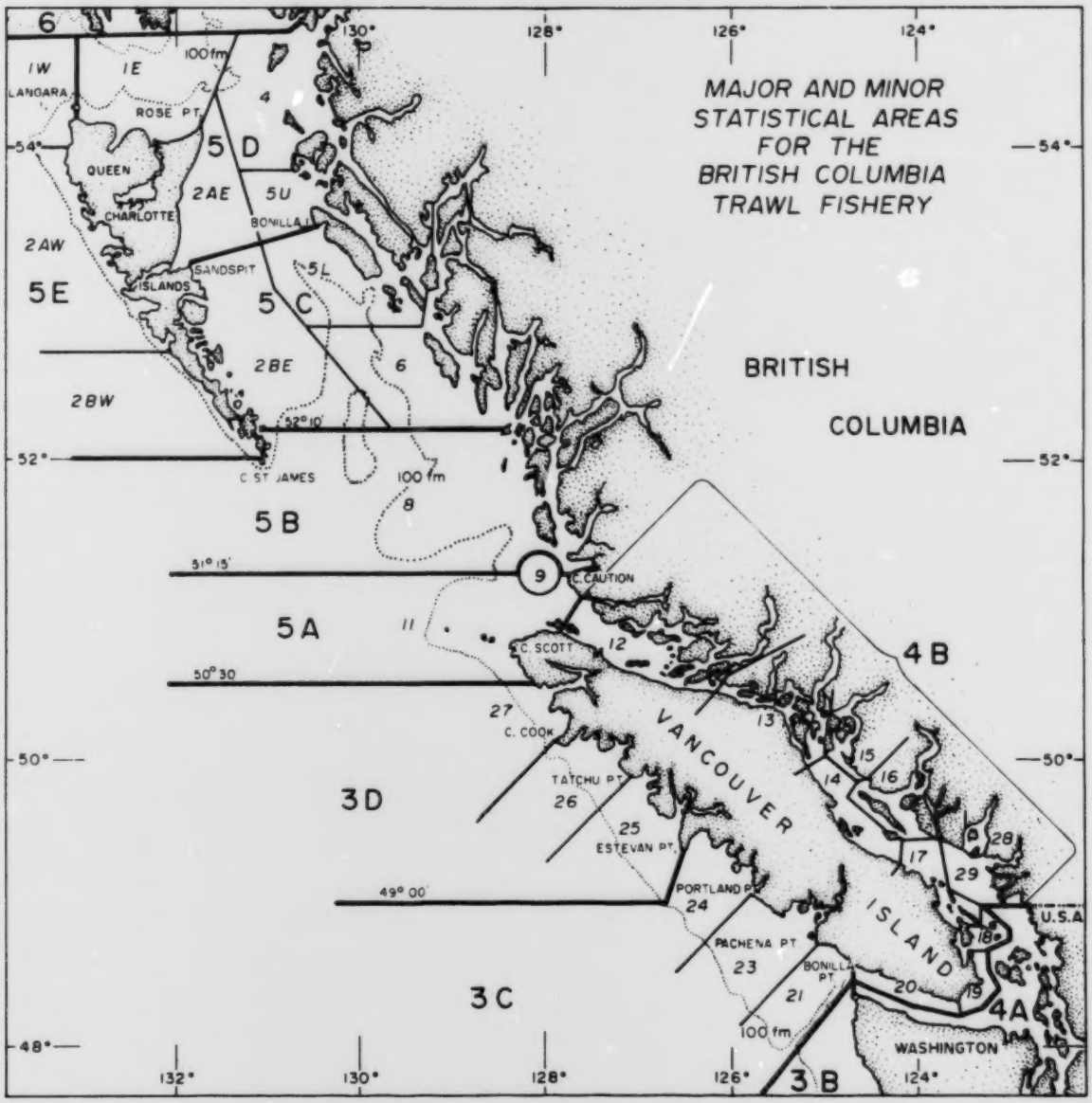
MAJOR AND MINOR
STATISTICAL AREAS
FOR THE
BRITISH COLUMBIA
TRAWL FISHERY
BRITISH
COLUMBIA
VANCOUVER
ISLAND
U.S.A
WASHINGTON
6
1W
1E
100fm
LANGARA
ROSE PT.
4
5D
QUEEN
CHARLOTTE
2AE
5U
BONILLA
2AW
SANDSPIT
ISLANDS
5E
5C
5L
2BE
6
2BW
52° 10'
C. ST JAMES
100 fm
8
5B
51° 15'
9
C. CAUTION
5A
11
C. SCOTT
12
4B
50° 30
27
C. COOK
13
15
16
14
50°
TATCHU PT.
26
3D
25
ESTEVAN PT.
17
28
29
49° 00'
PORTLAND PT.
24
18
PACHENA PT.
23
BONILLA PT.
21
20
19
4A
3C
100 fm
48°
132°
130°
128°
126°
3B
124°
54°
52°

Figure 2.

AREA 4B--STRAIT OF GEORGIA

The Canadian waters from the Bonilla-Tatoosh line inside to a line drawn north and south (Mag.) through Pine Island at the upper end of Queen Charlotte Strait. This area, defined simply as the Strait of Georgia, includes all Canadian inshore grounds of Juan de Fuca Strait, Johnstone and Queen Charlotte Straits, and Georgia Strait.

AREA 5A--SOUTH QUEEN CHARLOTTE SOUND

From the northern boundaries of Areas 4B and 3D to latitude 51°15'N. This area includes all grounds incorporated in the Cape Scott Bank and a portion of the grounds in the gully between the Cape Scott Bank and the Goose Island Bank. It also includes catches from the Virgin Rocks ground.

AREA 5B--NORTH QUEEN CHARLOTTE SOUND

From latitude 51°15'N to latitude 52°00'N on the westward side to Cape St. James and from latitude 51°15'N to latitude 52°10'N on the eastward side of Cape St. James. This area includes all grounds associated with the Goose Island Bank and the remaining portion of the grounds in the gully between the Goose Island Bank and the Cape Scott Bank.

AREA 5C--SOUTH HECATE STRAIT

From latitude 52°10'N to a line drawn from Spit Point (Sandspit) on Moresby Island to the southern tip of Bonilla Island. This area includes the grounds known as the "Horseshoe" and "Ole Spot" in the central region of the Strait.

AREA 5D--NORTH HECATE STRAIT

From the northern boundary of Area 5C to latitude 54°40'N, limited to the westward by longitude 133° W across Dixon Entrance. This area includes the Two Peaks ground (northeast of Rose Spit), the Butterworth-Warrior edge, the Fingers (southwest of Archibald Island), the Oval Hill ground, the White Rock ground (northwest of Bonilla Island), the Skidegate Inlet ground, the Fife Point ground, the southwest Rocks ground, and grounds in Dixon Entrance.

AREA 5E--WEST COAST QUEEN CHARLOTTE ISLANDS

From latitude 52°00'N to 54°40'N, limited to the eastward by longitude 133° W across Dixon Entrance.

AREA 6--ALASKA

Encompasses waters bounded on the south by latitude 54°40'N and on the west by longitude 147° W.

MINOR STATISTICAL AREA DIVISIONS

Minor areas are used to give more detailed information on region of capture of groundfish. They are areas within major areas and are basically the former Fisheries Management statistical areas with some modifications. Figure 3 illustrates the areas, and the modifications are catalogued below:

1. Minor area 101 has been divided into two minor areas, 1E and 1W. This boundary lies along longitude 133° W.

2. Minor area 142 has been divided into two minor areas, 2AW and 2BW. This boundary lies along 52°40'N latitude.

3. The boundary between Area 102 and Area 104 has been shifted northwestward to Rose Spit. Area 4 was expanded to bring the whole of the "Two Peaks" and "Dundas" grounds within Area 4. This has meant the elimination of Areas 103 and 3xy.

4. Minor area 105 has been divided into sub-areas, designated 5U and 5L. This boundary lies along the Sandspit-Bonilla Island line, which is the internationally agreed line of division between north and south Hecate Strait (Areas 5D and 5C).

5. The boundary between Areas 5D and 5C has been continued through Area 102 to divide it into two minor areas, 2AE and 2BE.

6. The southern boundary of Areas 102 and 106 has been shifted to lie along 52°10'N latitude to conform with the boundary between Areas 5C and 5D.

7. Area 8 has been expanded to include the whole of the Goose Island Bank. This had involved (a) shifting the northern boundary to 52°10'N latitude and eliminating Area 107, (b) shifting the southern boundary to 51°15' W latitude and elimination of Areas 109, and 110, and (c) the elimination of Area 130, previously used for offshore catches in Queen Charlotte Sound. There is, in this report, no westward limit to Area 8.

8. Area 9 has been changed and is now a circle 12 miles in diameter surrounding the Sea Otter group and the Virgin Rocks ground. It is considered to be part of Area 5A.

9. Area 11 has been expanded to include all of the Cape Scott Bank. This has meant the elimination of Area 111 and the addition of part of Area 127 lying northward of 50°30'N latitude. This is to conform with the boundary between Areas 5A and 3D.

10. The western limit of Area 12 is now Bates Passage.

11. Areas 21, 23, 24, 25, 26, and 27 have been expanded to include Areas 121, 123, 124, 125, 126, and 127, respectively.

12. The boundary between Areas 24 and 25 has been shifted to lie along the boundary between Areas 3C and 3D.

13. The boundary between Areas 23 and 24 has been shifted northwards to Portland Point and it lies on a bearing 225° True. This is to bring the whole of the ground known as Firing Range (which formerly lay on the boundary between these two areas) entirely within Area 23.

All other minor areas remain the same as those defined by the Fisheries Management Statistical Chart.

The following shows the relationship between the major and minor areas:

	Major areas	Minor areas
6	Alaska	Southeastern, Yakutat[1]
5E	West Coast Queen Charlotte Islands	1W, 2AW, 2BW
5D	North Hecate Strait	1E, 2AE, 4, 5U
5C	South Hecate Strait	2BE, 5L, 6
5B	North Queen Charlotte Sound	8
5A	South Queen Charlotte Sound	9, 11
3D	Northwest Coast Vancouver Island	27, 26, 25
3C	Southwest Coast Vancouver Island	24, 23, 21
3B	Northwest Washington Coast	"C"
4B	Strait of Georgia[2]	12, 13, 14, 15, 16, 17, 18, 19, 20, 28, 29

[1] Southeastern - from 54°40'N to 137° W. Yakutat from 137° W to 147° W.
[2] Including Johnstone and Queen Charlotte straits and the Canadian portion of the Strait of Juan de Fuca.

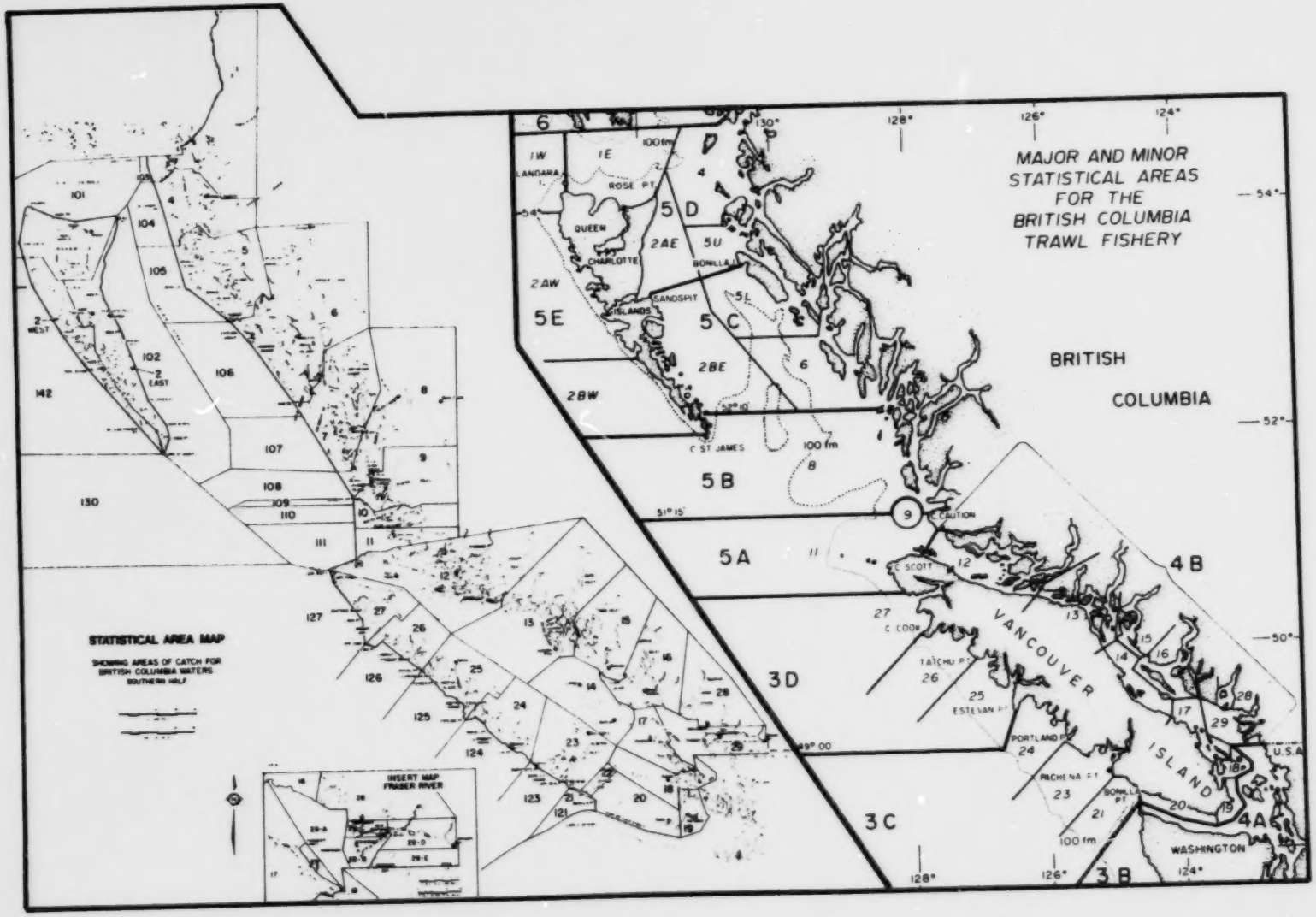
MAJOR AND MINOR STATISTICAL AREAS FOR THE BRITISH COLUMBIA TRAWL FISHERY
BRITISH COLUMBIA
STATISTICAL AREA MAP
SHOWING AREAS OF CATCH FOR BRITISH COLUMBIA WATERS SOUTHERN HALF
INSERT MAP FRASER RIVER
VANCOUVER ISLAND
WASHINGTON
U.S.A.
5E
5D
5C
5B
5A
3D
3C
3B
4B
4A
2AW
2AE
2BW
2BE
5U
5L
1W
1E
ROSE PT.
QUEEN CHARLOTTE ISLANDS
SANDSPIT
BONILLA PT.
C. ST. JAMES
CAUTION
C. SCOTT
C. COOK
TATCHU PT.
ESTEVAN PT.
PORTLAND PT.
PACHENA PT.
100 fm

Figure 3.

DOMESTIC TRAWL FISHERY

In 1989, catch and effort data were collected by port liaison officers for 98%, by weight, of the total trawl landings. Through the cooperation of the Statistics Division, Fisheries Branch, the remaining 2% of the landings were recorded from sales slips, from which no effort (hours fished) is available. Catch-per-unit-effort (CPUE) statistics obtained from the interview data were used to estimate the effort expended for the catch reported on these sales slips.

From total landed catch and total estimated effort data, an average CPUE (t/h) was calculated for each major fishing area. Also calculated was the percentage of total catch and effort expended in each of these areas. These last two statistics show relative importance of each area and are used in the calculation of the "success ratio". This parameter is defined as the percent of the total catch divided by the percent of total effort.

Total landings in 1989 (excluding dumped[3] and discarded[4] fish) by the British Columbia domestic trawl fleet were 53,489 t, 4% below the total for 1988. Effort expended increased 8% to 53,147 hours resulting in an overall CPUE of 1.006 t/h, 11% below the 1988 rate.

Pacific cod was the strongest contributor to the trawl fishery with landings of 9,138 t. This was, however, a decrease of 17% from 1988 levels. Total rockfish landings were 22,762 t, and accounted for 43% of the total trawl landings. There were marked increases in landings of yellowmouth rockfish (1,596 t) and redbanded rockfish (442 t). Other species showing increased catches were hake (8,682 t), lingcod (3,057 t), Dover sole (2,149 t), rock sole (2,066 t), English sole (1,042 t), petrale sole (952 t) and turbot (609 t).

There were decreases in landings of Pacific ocean perch (6,003 t), yellowtail rockfish (4,298 t), silvergray rockfish (2,827 t), widow rockfish (1,687 t), redstripe rockfish (1,601 t), rougheye rockfish (1,000 t), Bocaccio (777 t) and dogfish (1,017 t).

Annual trawl catch and effort data are shown in Tables 2-7. Landings by major area, month and species are presented in Tables 8-15.

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[3]Fish caught and retained but eventually rejected at the plant as being unsuitable for any utilization.

[4]Fish caught and discarded at sea by fishermen.

Landings by minor area, month and species are given in Tables 16-43. Due to rounding some table totals do not match exactly. Figure 4 illustrates total catch (t) and total effort (h) by major area.

AREA 4B--STRAIT OF GEORGIA

There was a 12% decrease in the amount of effort expended (5,260 h) but a 3% increase in landings (8,429 t), resulting in an increased CPUE of 1.602 t/h. Midwater trawl gear accounted for 90% of the catch (7,564 t) of which Pacific hake was the most abundant species. Pacific cod, pollock, and dogfish were the other main species caught in this area.

AREA 3C--SOUTHWEST COAST OF VANCOUVER ISLAND

This area contributed 19% of the total British Columbia trawl production. There was a 50% increase in the amount of effort expended (11,367 h) and a 26% increase in landings (9,962 t) but this resulted in a decreased CPUE of 0.876 t/h. Pacific cod (2,754 t), rockfish (1,828 t) and hake (1,678 t) were the dominant species. All of the hake landed was caught by midwater trawl gear.

AREA 3D--NORTHWEST COAST OF VANCOUVER ISLAND

The landings (6,622 t) for this area decreased 3%, the amount of effort expended (6,403 h) increased 16% and CPUE decreased to 1.034 t/h. Rockfish landings of 5,217 t, of which yellowtail rockfish (1,270 t), Pacific ocean perch (1,079 t), canary rockfish (729 t), silvergray rockfish (618 t) and redstripe rockfish (390 t) were the dominant species, accounted for 79% of the total catch.

AREA 5A--SOUTH QUEEN CHARLOTTE SOUND

Total landings (4,314 t) decreased 9% and total effort expended (6,276 h) decreased 9%, resulting in a slightly decreased CPUE of 0.687 t/h. Lingcod (879 t), yellowmouth rockfish (592 t), Pacific cod (479 t), silvergray rockfish (462 t), and Pacific ocean perch (362 t) were the major species caught in this area.

AREA 5B--NORTH QUEEN CHARLOTTE SOUND

Total landings (9,323 t) decreased 18%, total effort expended (7,748 h) decreased 7% and CPUE (1.203 t/h) decreased 12% below 1988 levels. Rockfish accounted for 79% of the landings. Yellowtail rockfish (2,311 t) was the dominant species, showing a 20% increase over 1988 landings. The other main species taken were Pacific ocean perch (1,956 t), widow rockfish (1,177 t), lingcod (738 t), and silvergray rockfish (504 t).

AREA 5C--SOUTH HECATE STRAIT

The amount of effort expended (5,310 h) in this area was 29% higher but landings (4,225 t) were 8% less than those seen in 1988. This resulted in a decrease in CPUE (0.796 t/h). Pacific cod (1,755 t) was the dominant species landed. Silvergray rockfish (557 t) and rock sole (410 t) were the other main species.

AREA 5D--NORTH HECATE STRAIT

Total landings (6,010 t) decreased 15% and total effort expended (7,685 h) increased 2%, resulting in a decreased CPUE (0.782 t/h). Pacific cod (3,023 t) was the dominant species landed, accounting for 50% of the catch. Rock sole (1,009 t), English sole (711 t) and Dover sole (559 t) were the other main species caught.

AREA 5E--WEST COAST OF QUEEN CHARLOTTE ISLANDS

There was a 6% decrease in the total landings (4,604 t) and a very slight decrease in the amount of effort expanded (3,098 h). This resulted in a slightly lower CPUE (1.486 t/h) than in 1988. Total rockfish landings of 4,179 t accounted for 91% of the total catch. Pacific ocean perch (2,067 t), rougheye rockfish (758 t), and silvergray rockfish (432 t) were the dominant species.

The following species were observed in trawl landings in British Columbia in 1989.

Family and common name	Scientific name
FISHES	
Acipenseridae	
Green sturgeon	Acipenser medirostris Ayres
Anarhichadidae	
Wolf-eel	Anarrhichthys ocellatus Ayres
Anoplopomatidae	
Sablefish	Anoplopoma fimbria (Pallas)
Clupeidae	
American shad	Alosa sapidissima (Wilson)
Embiotocidae	
Pile perch	Rhacochilus vacca (Girard)
Gadidae	
Pacific cod, true cod or gray cod	Gadus macrocephalus Tilesius
Pacific hake	Merluccius productus (Ayres)
Walleye pollock	Theragra chalcogramma (Pallas)
Hexagrammidae	
Lingcod	Ophiodon elongatus Girard
Greenlings	Hexagrammos sp.
Hexanchidae	
Sixgill shark	Hexanchus griseus (Bonnaterre)
Pleuronectidae	
Arrowtooth flounder or turbot	Atheresthes stomias (Jordan and Gilbert)
Petrale sole	Eopsetta jordani (Lockington)
Rex sole	Glyptocephalus zachirus Lockington
Flathead sole	Hippoglossoides elassodon (Jordan and Gilbert)
Butter sole	Isopsetta isolepis (Lockington)
Rock sole	Lepidopsetta bilineata (Ayres)
Yellowfin sole	Limanda aspera (Pallas)
Slender sole	Lysopsetta exilis (Jordan and Gilbert)
Dover sole	Microstomus pacificus (Lockington)

Family and common name	Scientific name
English sole	Parophrys vetulus Girard
Starry Flounder	Platichthys stellatus (Pallas)
Sand sole	Psettichthys melanostictus (Girard)
Rajidae	
Big skate	Raja binoculata Girard
Longnose skate	Raja rhina Jordan and Gilbert
Scorpaenidae	
Rougheye rockfish	Sebastes aleutianus (Jordan and Evermann)
Pacific ocean perch	Sebastes alutus (Gilbert)
Redbanded rockfish	Sebastes babcocki (Thompson)
Shortraker rockfish	Sebastes borealis Barsukov
Silvergray rockfish	Sebastes brevispinis (Bean)
Copper rockfish	Sebastes caurinus Richardson
Darkblotched rockfish	Sebastes crameri (Jordan)
Splitnose rockfish	Sebastes diploproa (Gilbert)
Greenstriped rockfish	Sebastes elongatus Ayres
Widow rockfish	Sebastes entomelas (Jordan and Gilbert)
Yellowtail rockfish	Sebastes flavidus (Ayres)
Rosethorn rockfish	Sebastes helvomaculatus Ayres
Quillback rockfish	Sebastes maliger (Jordan and Gilbert)
Black rockfish	Sebastes melanops Girard
China rockfish	Sebastes nebulosus Ayres
Tiger rockfish	Sebastes nigrocinctus Ayres
Bocaccio	Sebastes paucispinis Ayres
Canary rockfish	Sebastes pinniger (Gill)
Redstripe rockfish	Sebastes proriger (Jordan and Gilbert)
Yellowmouth rockfish	Sebastes reedi (Westrheim and Tsuyuki)
Yelloweye rockfish	Sebastes ruberrimus (Cramer)
Sharpchin rockfish	Sebastes zacentrus (Gilbert)
Shortspine thornyhead	Sebastolobus alascanus Bean
Squalidae	
Spiny dogfish	Squalus acanthias Linnaeus
INVERTEBRATES	
Octopoda	
Octopus or devilfish	Octopus sp.
Teuthoidea	
Squid	Loligo opalescens Berry

Table 2. Total catch (t) and related effort[a] (h) for the British Columbia trawl fleet in 1989 (excludes dumped and discarded fish).

Month	Major area									
	4B		3C		3D		5A		5B	
	Catch	Effort	Catch	Effort	Catch	Effort	Catch	Effort	Catch	Effort
January	217.64	912	272.84	362	536.73	408	233.49	147	137.04	67
February	571.06	429	1,910.76	1897	813.85	757	299.63	204	381.89	191
March	2,450.00	546	819.09	855	757.95	603	59.28	45	275.07	123
April	2,369.31	358	1,185.39	868	581.67	481	230.98	261	1,179.15	876
May	1,129.85	237	931.37	1427	799.89	1033	488.23	1051	2,080.31	1710
June	286.73	24	1,129.74	1561	379.23	736	579.78	982	1,452.83	1279
July	324.30	125	1,174.26	1133	247.35	375	536.04	897	928.74	918
August	224.62	220	445.38	791	110.25	122	207.67	443	406.60	509
September	159.32	434	995.72	1200	620.25	433	773.15	869	810.19	839
October	303.50	549	556.54	568	1,071.34	931	512.68	719	795.22	593
November	306.90	840	383.02	521	612.24	457	278.04	452	678.24	388
December	85.35	586	157.68	184	91.52	67	115.54	206	197.28	255
Total	8,428.58	5260	9,961.79	11367	6,622.27	6403	4,314.51	6276	9,322.56	7748
CPUE (t/h)	1.602		.876		1.034		.687		1.203	
% catch	15.76		18.62		12.38		8.07		17.43	
% effort	9.90		21.39		12.05		11.81		14.58	
Success ratio	1.59		.87		1.03		.68		1.20	

[a]This effort was prorated using the known CPUE obtained from interviews which accounted for 98% of the total catch.

Table 2 (cont'd).

Month	Major area 5C		5D		5E		Total	
	Catch	Effort	Catch	Effort	Catch	Effort	Catch	Effort
January	81.84	76	387.52	374	302.54	150	2,169.64	2496
February	853.33	651	635.46	748	364.13	182	5,830.11	5059
March	508.50	437	1,146.86	1054	639.07	428	6,655.82	4091
April	609.67	607	751.83	1066	458.07	304	7,366.07	4821
May	707.08	1324	821.52	1228	666.38	489	7,624.63	8499
June	308.60	611	756.72	971	561.76	352	5,455.39	6516
July	158.33	142	410.12	442	258.77	111	4,037.91	4143
August	13.64	9	92.60	109	166.02	66	1,666.78	2269
September	221.90	254	336.80	356	147.14	41	4,064.47	4426
October	523.47	806	369.59	720	461.16	396	4,593.50	5282
November	224.08	372	224.78	444	427.93	463	3,135.23	3937
December	15.01	21	76.11	173	151.15	116	889.64	1608
Total	4,225.45	5310	6,009.91	7685	4,604.12	3098	53,489.19	53147
CPUE (t/h)	.796		.782		1.486		1.006	
% catch	7.90		11.24		8.61			
% effort	9.99		14.46		5.83			
Success ratio	.79		.78		1.48			

Trawl Catch (t) and Effort (hr) by Major Area in 1989

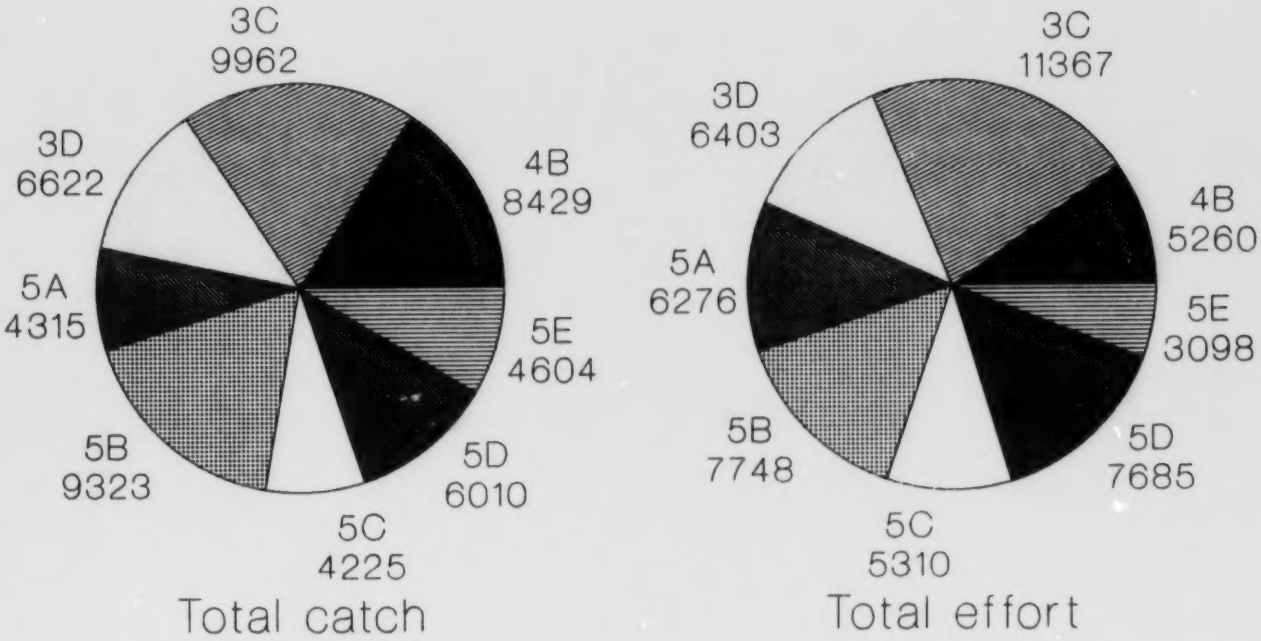

Figure 4.

Table 3. Total British Columbia trawl landings (t) by main species and major area in 1989 (excluding dumped and discarded fish).

Species	Major areas								Total
	4B	3C	3D	5A	5B	5C	5D	5E	
English sole	64.17	76.96	20.89	22.68	32.11	114.03	710.63	-	1,041.47
Rock sole	16.39	204.36	33.62	142.21	250.25	410.48	1,009.13	.02	2,066.46
Petrale sole	.44	385.26	177.18	79.68	138.20	124.79	26.78	20.03	952.36
Dover sole	1.46	889.12	429.99	48.61	73.04	15.52	558.54	132.50	2,148.78
Rex sole	.01	3.31	1.45	1.12	.84	6.77	114.58	11.42	139.50
Starry flounder	46.66	36.97	-	.33	-	-	39.04	-	123.00
Turbot	.32	37.22	34.28	143.57	347.31	4.41	30.75	11.50	609.36
Other flatfish[a]	12.78	3.60	2.81	2.01	1.01	.50	26.00	-	48.71
Pacific cod	604.01	2,753.74	234.64	478.57	284.00	1,754.66	3,023.10	5.77	9,138.49
Lingcod	2.90	847.35	299.64	878.98	737.57	128.36	142.32	19.99	3,057.11
Sablefish	.17	325.51	114.87	17.34	34.62	6.99	5.79	118.09	623.38
Pollock	375.20	32.77	-	2.35	3.64	-	28.69	-	442.65
Hake	7,003.71	1,677.88	-	-	-	-	-	-	8,681.59
Ocean perch	-	188.15	1,079.19	362.33	1,956.47	344.34	5.94	2,066.95	6,003.37
Other rockfish[a]	3.05	1,639.49	4,138.24	2,092.93	5,396.53	1,273.82	103.15	2,111.51	16,758.72
Misc. species[a]	12.09	8.10	.51	2.24	19.46	10.47	104.99	-	157.86
Dogfish	146.55	818.49	19.39	30.20	-	-	2.72	-	1,017.35
Animal food[a]	.12	1.50	-	-	.60	-	50.46	73.43	126.11
Reduction[a]	138.55	32.01	35.57	9.36	46.91	30.31	27.30	32.91	352.92
Total	8,428.58	9,961.79	6,622.27	4,314.51	9,322.56	4,225.45	6,009.91	4,604.12	53,489.19
Effort	5,260	11,367	6,403	6,276	7,748	5,310	7,685	3,098	53,147

[a]Refer to Table 6 for breakdown by species.

Table 4. British Columbia midwater[a] trawl landings (t) by species and major area in 1989 (excluding dumped and discarded fish).

Species	Major area							
	4B	3C	3D	5A	5B	5C	5D	Total
Dogfish	47.24	-	-	-	-	-	-	47.24
Lingcod	-	-	.09	-	7.81	-	-	7.90
Pacific cod	-	.05	.78	-	2.49	-	-	3.32
Pacific hake	7,003.71	1,677.88	-	-	-	-	-	8,681.59
Pollock	374.84	25.43	-	-	1.49	-	5.77	407.53
Sablefish	-	-	.20	-	-	-	-	.20
Ocean perch	-	-	.38	10.53	76.78	-	-	87.69
Other rockfish	-	182.43	957.37	78.40	1,937.52	23.51	.67	3,179.90
English sole	-	.02	.04	-	.32	-	-	.38
Rock sole	-	-	.01	-	1.49	-	-	1.50
Petrale sole	-	-	.37	-	.32	-	-	.69
Misc. sp.	-	-	.02	-	-	-	-	.02
Reduction	138.55	-	-	-	3.87	-	-	142.42
Total	7,564.34	1,885.81	959.26	88.93	2,032.09	23.51	6.44	12,560.38

[a]These midwater trawl catches are included in all the trawl tables in this report.

Table 5. British Columbia midwater[a] trawl landings (t) and related effort (h) in 1989 (excluding dumped and discarded fish).

	Major area									
	4B		3C		3D		5A		5B	
Month	Catch	Effort	Catch	Effort	Catch	Effort	Catch	Effort	Catch	Effort
January	63.14	12	39.92	24	391.24	304	-	-	-	-
February	532.67	165	76.38	24	211.69	188	-	-	-	-
March	2,373.53	186	16.45	13	214.67	175	-	-	-	-
April	2,338.90	165	12.70	15	37.98	4	-	-	427.70	273
May	1,112.41	84	87.11	9	2.97	24	11.45	12	934.67	471
June	281.87	18	348.91	39	19.22	12	-	-	231.90	185
July	278.97	22	530.81	62	6.36	2	-	-	154.10	54
August	125.55	5	10.64	5	-	-	-	-	18.89	3
September	56.88	14	486.50	109	19.04	10	77.48	43	222.32	96
October	208.98	37	276.45	38	24.03	17	-	1	38.13	17
November	191.44	39	-	-	32.06	12	-	-	4.38	3
December	-	-	-	-	-	-	-	-	-	-
Total	7,564.34	747	1,885.81	338	959.26	748	88.93	56	2,032.09	1102

[a]Midwater trawl catch and effort are included in all the trawl tables in this report. This effort was prorated using the known CPUE obtained from interviews which accounted for 98% of the midwater trawl catch.

Table 5 (cont'd).

Month	Major area					
	5C		5D		Total	
	Catch	Effort	Catch	Effort	Catch	Effort
January	-	-	-	-	494.30	340
February	-	-	-	-	820.74	377
March	4.31	12	-	-	2,608.96	386
April	-	-	-	-	2,817.28	457
May	-	-	-	-	2,148.61	600
June	-	-	-	-	881.84	254
July	-	-	-	-	970.24	140
August	-	-	-	-	155.08	13
September	-	-	-	-	862.22	272
October	19.20	5	6.44	27	573.23	142
November	-	-	-	-	227.88	54
December	-	-	-	-	.00	0
Total	23.51	17	6.44	27	12,560.38	3035

Table 6. Species landed (t) as "other flatfish", "other rockfish", miscellaneous species", "animal food" and "reduction" by major area in 1989 (excluding dumped and discarded fish).

Species	Major area								
	4B	3C	3D	5A	5B	5C	5D	5E	Total
Other flatfish									
Butter sole	-	-	-	-	-	.02	5.65	-	5.67
Flathead sole	.62	.25	.55	-	.05	-	5.18	-	6.65
Sand sole	5.99	1.25	-	.46	-	.49	12.85	-	21.04
Slender sole	-	.02	-	-	-	-	-	-	.02
Yellowfin sole	-	-	-	-	-	-	2.27	-	2.27
Unspecified	6.18	2.08	2.28	1.56	.96	-	.04	-	13.10
Total	12.79	3.60	2.83	2.02	1.01	.51	25.99	.00	48.75
Other rockfish									
Black rockfish	-	.69	-	.03	2.03	-	-	-	2.75
Bocaccio	.01	101.23	228.98	162.26	175.09	43.29	22.57	44.03	777.46
Canary rockfish	.01	439.03	728.58	138.12	364.68	111.28	10.68	19.49	1,811.87
China rockfish	-	-	-	-	.01	.02	.24	-	.27
Copper rockfish	-	-	-	-	-	.32	2.53	-	2.85
Darkblotched rockfish	-	24.25	30.33	4.06	28.45	.05	-	11.64	98.78
Greenstriped rockfish	-	.77	3.10	.29	1.01	-	-	5.32	10.49
Harlequin rockfish	-	-	-	-	-	-	-	.14	.14
Quillback rockfish	.69	.25	.06	1.37	.12	.01	4.68	-	7.18
Redbanded rockfish	-	54.21	78.29	61.99	200.51	23.55	5.70	17.85	442.10
Redstripe rockfish	-	207.29	390.04	305.79	199.33	194.53	5.49	298.54	1,601.01
Rosethorn rockfish	-	.12	.05	-	.06	-	-	.31	.54
Rougheye rockfish	-	95.66	60.81	20.57	48.06	14.40	1.84	758.30	999.64
Sharpchin rockfish	-	5.44	45.22	66.42	30.61	12.79	-	28.61	189.09
Shortraker rockfish	-	12.40	9.94	.37	4.07	.35	.23	15.94	43.30
Shortspine rockfish	-	17.83	16.80	.22	4.82	1.24	2.08	71.85	114.84
Silvergray rockfish	.05	232.42	617.55	461.90	504.10	557.06	21.67	432.20	2,826.95

Table 6 (cont'd)

Species	Major area 4B	3C	3D	5A	5B	5C	5D	5E	Total
Other rockfish (cont'd)									
Splitnose rockfish	-	27.81	32.13	8.70	70.15	5.36	-	6.48	150.63
Tiger rockfish	-	-	-	-	.25	.21	-	.03	.49
Widow rockfish	-	97.58	293.26	52.68	1,176.94	57.37	.27	8.75	1,686.85
Yelloweye rockfish	.01	7.19	1.16	.14	27.14	.54	.02	-	36.20
Yellowmouth rockfish	-	43.04	311.82	591.85	244.95	23.62	-	380.88	1,596.16
Yellowtail rockfish	.68	260.02	1,270.18	210.16	2,310.53	222.98	16.10	6.91	4,297.56
Unspecified	1.61	12.26	19.92	6.01	3.61	4.86	9.07	4.24	61.58
Total	3.06	1,639.49	4,138.22	2,092.93	5,396.52	1,273.83	103.17	2,111.51	16,758.73
Miscellaneous species									
Greenlings	-	-	-	.11	-	-	-	-	.11
Octopus	.52	.34	.05	.44	1.22	3.51	15.28	-	21.36
Perch	.02	-	-	-	-	-	-	-	.02
Shad	.01	-	-	-	-	-	-	-	.01
Skatewings	11.51	7.31	.44	1.67	18.26	6.94	89.45	-	135.58
Squid	.01	-	-	-	-	-	-	-	.01
Sturgeon	-	.45	-	-	-	.01	-	-	.46
Wolfeel	.01	-	.02	.02	-	-	.26	-	.31
Total	12.08	8.10	.51	2.24	19.48	10.46	104.99	.00	157.86

Table 6 (cont'd)

Species	Major area 4B	3C	3D	5A	5B	5C	5D	5E	Total
Animal food									
Dover sole	-	-	-	-	-	-	1.18	-	1.18
English sole	.12	-	-	-	-	-	.51	-	.63
Rock sole	-	-	-	-	-	-	.02	-	.02
Starry flounder	-	-	-	-	-	-	.02	-	.02
Turbot	-	-	-	-	-	-	.01	-	.01
Lingcod	-	-	-	-	-	-	1.18	-	1.18
Pacific cod	-	-	-	-	-	-	1.32	-	1.32
Pacific Ocean perch	-	-	-	-	-	-	-	7.67	7.67
Other rockfish	-	-	-	-	-	-	-	6.12	6.12
Skatewings	-	-	-	-	-	-	.76	-	.76
Unspecified	-	1.50	-	-	.60	-	45.44	59.64	107.18
Total	.12	1.50	.00	.00	.60	.00	50.44	73.43	126.09
Reduction									
Dover sole	-	6.16	.23	-	-	-	-	.42	6.81
English sole	-	.20	-	-	-	1.35	1.21	-	2.76
Petrale sole	-	.29	-	-	.20	-	-	-	.49
Rock sole	-	.11	4.21	-	1.18	-	2.95	-	8.45
Misc. sole	-	1.80	.32	-	-	-	-	-	2.12
Pacific ocean perch	-	2.23	.42	-	.24	7.80	-	6.59	17.28
Other rockfish	-	1.44	.06	6.31	-	-	.10	21.36	29.27
Dogfish	5.04	4.45	-	-	-	-	-	-	9.49
Hake	73.00	-	-	-	-	-	-	-	73.00
Lingcod	-	1.26	-	-	-	-	-	-	1.26
Pacific cod	-	2.76	-	-	-	.65	8.41	.16	11.98
Pollock	60.51	-	-	-	-	-	-	-	60.51
Sablefish	-	.02	-	-	-	-	-	-	.02
Skatewings	-	-	-	.07	-	-	-	-	.07
Unspecified	-	11.29	30.34	2.98	45.29	20.52	14.61	4.39	129.42
Total	138.55	32.01	35.58	9.36	46.91	30.32	27.28	32.92	352.93

Table 7. British Columbia trawl landings (t) by species and minor area in 1989.

Species	12	13	14	15	16
English sole	16.80	.07	5.64	-	-
Rock sole	5.63	.99	3.49	-	-
Petrale sole	-	-	.03	-	-
Dover sole	-	-	-	-	-
Rex sole	.01	-	-	-	-
Butter sole	-	-	-	-	-
Flathead sole	.62	-	-	-	-
Sand sole	5.52	.27	-	-	-
Turbot	-	-	-	-	-
Starry flounder	6.38	19.69	4.77	14.05	-
Other flatfish	.44	-	1.40	-	-
Pacific cod	4.16	.15	36.76	-	-
Lingcod	.02	-	.32	-	-
Sablefish	-	-	.12	-	-
Pollock	-	-	5.14	-	109.49
Pacific ocean perch	-	-	-	-	-
Bocaccio	.01	-	-	-	-
Canary rockfish	-	-	.01	-	-
Redstripe rockfish	-	-	-	-	-
Rougheye rockfish	-	-	-	-	-
Silvergray rockfish	.05	-	-	-	-
Yellowmouth rockfish	-	-	-	-	-
Yellowtail rockfish	.04	-	-	-	-
Widow rockfish	-	-	-	-	-
Other rockfish	.86	-	.42	-	-
Hake	-	-	1,221.91	-	62.59
Octopus	.01	-	.01	-	-
Perch	-	-	-	-	-
Skatewings	3.39	.67	.49	-	-
Squid	-	-	-	-	-
Sturgeon	-	-	-	-	-
Misc. species	.01	-	-	-	-
Dogfish	-	-	60.39	.45	-
Reduction	-	-	26.37	-	-
Animal food	.12	-	-	-	-
Total	44.07	21.84	1,367.27	14.50	172.08
Dumped fish	-	-	-	-	-
Discards	2.55	.60	59.91	-	-

Table 7 (cont'd)

Species	17	18	19	20	29
English sole	10.43	23.14	2.25	5.10	.75
Rock sole	2.86	2.36	1.08	-	-
Petrale sole	-	.26	.08	.07	-
Dover sole	-	-	.12	1.34	-
Rex sole	-	-	-	-	-
Butter sole	-	-	-	-	-
Flathead sole	-	-	-	-	-
Sand sole	.17	.02	-	-	-
Turbot	.10	-	.22	-	-
Starry flounder	.80	.96	-	-	-
Other flatfish	.97	2.48	.47	.10	.31
Pacific cod	6.87	73.82	476.46	5.49	.27
Lingcod	-	.17	2.37	.02	-
Sablefish	-	.03	.02	-	-
Pollock	139.45	.12	.15	-	120.85
Pacific ocean perch	-	-	-	-	-
Bocaccio	-	-	-	-	-
Canary rockfish	-	-	-	-	-
Redstripe rockfish	-	-	-	-	-
Rougheye rockfish	-	-	-	-	-
Silvergray rockfish	-	-	-	-	-
Yellowmouth rockfish	-	-	-	-	-
Yellowtail rockfish	-	-	.06	.57	-
Widow rockfish	-	-	-	-	-
Other rockfish	.52	.43	.06	-	-
Hake	3,417.25	-	-	770.45	1,531.51
Octopus	.02	.24	.22	.04	-
Perch	-	.02	-	-	-
Skatewings	.86	1.88	3.55	.29	.36
Squid	-	-	.01	-	-
Sturgeon	-	-	-	-	-
Misc. species	-	-	.01	-	-
Dogfish	12.15	17.24	30.55	-	25.77
Reduction	101.65	-	-	-	10.52
Animal food	-	-	-	-	-
Total	3,694.10	123.17	517.68	783.47	1,690.34
Dumped fish	-	-	.35	-	-
Discards	.59	3.59	28.55	3.35	-

Table 7 (cont'd)

Species	21	23	24	25	26
English sole	1.98	49.49	25.50	17.01	1.65
Rock sole	6.88	149.49	48.02	3.89	.11
Petrale sole	8.59	150.32	226.36	143.88	2.84
Dover sole	10.86	330.99	547.25	384.60	30.39
Rex sole	.27	.63	2.40	1.27	.14
Butter sole	-	-	-	-	-
Flathead sole	-	.25	-	-	-
Sand sole	-	-	1.25	-	-
Turbot	2.15	19.64	15.44	31.93	-
Starry flounder	-	1.03	35.94	-	-
Other flatfish	.13	1.62	.35	1.83	.04
Pacific cod	87.20	2,396.45	270.14	104.48	29.20
Lingcod	20.34	516.93	310.07	202.45	22.08
Sablefish	101.82	173.23	50.43	75.26	17.16
Pollock	-	32.77	-	-	-
Pacific ocean perch	20.78	87.42	79.95	87.30	56.83
Bocaccio	12.79	43.69	44.74	120.70	29.30
Canary rockfish	69.56	203.33	166.14	324.11	140.81
Redstripe rockfish	21.18	103.99	82.15	78.80	11.44
Rougheye rockfish	.70	21.34	73.61	44.24	4.63
Silvergray rockfish	24.04	106.71	101.67	262.75	166.70
Yellowmouth rockfish	5.68	3.69	33.70	13.14	.92
Yellowtail rockfish	91.74	79.37	88.92	1,083.45	148.26
Widow rockfish	37.27	50.56	9.75	232.30	24.99
Other rockfish	6.89	56.44	99.89	85.91	15.13
Hake	699.76	934.16	43.95	-	-
Octopus	-	.24	.10	.03	-
Perch	-	-	-	-	-
Skatewings	.16	6.32	.83	.06	.29
Squid	-	-	-	-	-
Sturgeon	.01	.35	.08	-	-
Misc. species	-	-	-	.02	-
Dogfish	-	802.64	15.85	4.11	11.90
Reduction	6.41	22.52	3.08	20.53	-
Animal food	-	-	1.50	-	-
Total	1,237.19	6,345.61	2,379.06	3,324.05	714.81
Dumped fish	-	6.86	2.90	1.52	1.01
Discards	283.87	484.59	135.00	127.03	9.07

Table 7 (cont'd)

Species	27	11	8	2BE	5L
English sole	2.24	22.68	32.11	58.03	56.00
Rock sole	29.62	142.21	250.25	390.73	19.75
Petrale sole	30.47	79.68	138.20	108.93	15.28
Dover sole	15.00	48.61	73.04	7.27	7.11
Rex sole	.04	1.12	.84	5.79	.84
Butter sole	-	-	-	.02	-
Flathead sole	.55	-	.05	-	-
Sand sole	-	.46	-	.49	-
Turbot	2.35	143.57	347.31	.17	4.24
Starry flounder	-	.33	-	-	-
Other flatfish	.41	1.55	.96	-	-
Pacific cod	100.94	478.57	284.00	1,658.56	92.50
Lingcod	75.08	878.98	737.57	111.00	16.46
Sablefish	22.43	17.34	34.62	5.73	1.15
Pollock	-	2.35	3.64	-	-
Pacific ocean perch	935.07	362.33	1,956.47	341.99	-
Bocaccio	79.02	162.27	175.07	32.97	8.60
Canary rockfish	263.64	138.11	364.69	95.48	2.49
Redstripe rockfish	299.80	305.79	199.31	192.87	-
Rougheye rockfish	11.96	20.57	48.06	14.41	-
Silvergray rockfish	188.10	461.89	504.11	531.19	6.66
Yellowmouth rockfish	297.77	591.85	244.96	23.63	-
Yellowtail rockfish	38.46	210.16	2,310.54	169.04	41.28
Widow rockfish	35.97	52.67	1,176.94	56.91	.45
Other rockfish	135.96	149.62	372.84	40.20	2.77
Hake	-	-	-	-	-
Octopus	.02	.43	1.21	2.93	.47
Perch	-	-	-	-	-
Skatewings	.09	1.68	18.25	6.15	.80
Squid	-	-	-	-	-
Sturgeon	-	-	-	.01	-
Misc. species	-	.13	-	-	-
Dogfish	3.37	30.20	-	-	-
Reduction	15.07	9.36	46.91	29.92	.40
Animal food	-	-	.60	-	-
Total	2,583.43	4,314.51	9,322.55	3,884.42	277.25
Dumped fish	2.79	1.16	-	-	-
Discards	40.26	280.04	320.45	286.78	96.09

Table 7 (cont'd)

Species	6	2AE	1E	4	5U
English sole	-	.40	.90	558.74	150.60
Rock sole	-	2.93	9.10	409.89	587.18
Petrale sole	.59	-	.35	6.38	20.06
Dover sole	1.12	-	13.90	490.66	53.95
Rex sole	.13	-	1.21	93.18	20.19
Butter sole	-	-	-	5.64	-
Flathead sole	-	-	-	2.92	2.26
Sand sole	-	.09	-	11.29	1.45
Turbot	-	-	-	12.61	18.14
Starry flounder	-	.08	.14	36.12	2.70
Other flatfish	-	-	-	1.92	.39
Pacific cod	3.62	.23	2.10	719.62	2,301.17
Lingcod	.92	.01	2.33	94.11	45.86
Sablefish	.11	-	.51	4.11	1.16
Pollock	-	-	5.38	3.49	19.82
Pacific ocean perch	2.35	-	.79	3.07	2.08
Bocaccio	1.70	-	.01	1.67	20.90
Canary rockfish	13.31	-	4.48	.66	5.53
Redstripe rockfish	1.66	-	-	.19	5.29
Rougheye rockfish	-	-	1.84	-	-
Silvergray rockfish	19.20	-	-	4.29	17.37
Yellowmouth rockfish	-	-	-	-	-
Yellowtail rockfish	12.66	-	1.53	6.38	8.16
Widow rockfish	-	-	-	.19	.07
Other rockfish	6.32	.09	1.87	11.52	11.07
Hake	-	-	-	-	-
Octopus	.11	-	-	4.44	10.82
Perch	-	-	-	-	-
Skatewings	-	.02	.31	62.35	26.78
Squid	-	-	-	-	-
Sturgeon	-	-	-	-	-
Misc. species	-	-	.03	.15	.09
Dogfish	-	-	-	-	2.72
Reduction	-	-	-	12.20	15.09
Animal food	-	-	-	30.29	20.16
Total	63.80	3.85	46.78	2,588.08	3,371.06
Dumped fish	-	-	-	6.11	-
Discards	8.61	-	53.93	426.27	236.95

Table 7 (cont'd)

Species	1W	2AW	2BW	Total
English sole	-	-	-	1,041.51
Rock sole	.02	-	-	2,066.48
Petrale sole	15.47	4.55	-	952.39
Dover sole	114.28	18.22	-	2,148.71
Rex sole	11.40	.02	-	139.48
Butter sole	-	-		5.66
Flathead sole	-	-	-	6.65
Sand sole	-	-	-	21.01
Turbot	11.50	-	-	609.37
Starry flounder	-	-	-	122.99
Other flatfish	-	-	-	15.37
Pacific cod	4.79	.98	-	9,138.53
Lingcod	17.58	2.42	-	3,057.09
Sablefish	95.53	22.07	.49	623.32
Pollock	-	-	-	442.65
Pacific ocean perch	1,509.85	445.14	111.96	6,003.38
Bocaccio	20.53	23.50	-	777.47
Canary rockfish	14.63	4.87	-	1,811.85
Redstripe rockfish	151.30	147.08	.17	1,601.02
Rougheye rockfish	511.00	235.42	11.87	999.65
Silvergray rockfish	320.52	110.63	1.03	2,826.91
Yellowmouth rockfish	157.81	222.91	.15	1,596.21
Yellowtail rockfish	.80	2.75	3.36	4,297.53
Widow rockfish	.68	8.04	.02	1,686.81
Other rockfish	123.64	35.67	3.11	1,161.23
Hake	-	-	-	8,681.58
Octopus	-	-	-	21.34
Perch	-	-	-	.02
Skatewings	-	-	-	135.58
Squid	-	-	-	.01
Sturgeon	-	-	-	.45
Misc. species	-	-	-	.44
Dogfish	-	-	-	1,017.34
Reduction	3.34	29.32	.25	352.94
Animal food	35.04	37.61	.80	126.12
Total	3,119.71	1,351.20	133.21	53,489.09
Dumped fish	26.49	-	-	49.19
Discards	102.25	43.28	11.34	3,044.95

Tables of monthly catch (t) by major area

TABLE 8. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 4B STRAIT OF GEORGIA.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	6.85	7.99	9.66	1.43	.89	.03	.13	2.43	2.49	7.89	15.29	9.09	64.17
ROCK S.	2.45	1.71	.39	.43	.25			.12	.59	3.79	3.86	2.80	16.39
PETRALE S.	.26		.11		.03				.04				.44
DOVER S.				.93	.41				.10	.01	.01		1.46
REX SOLE		.01											.01
STARRY FLDR	16.49	1.81	12.51							1.71	12.82	1.32	46.66
TURBOT	.17								.04	.01		.10	.32
OTHER FLAT.	3.59	3.00	.11	.23					.03	2.66	1.42	1.74	12.78
PACIFIC COD	119.94	20.70	52.08	26.46	15.44	1.05	14.56	84.08	87.47	75.69	72.36	34.18	604.01
LINGCOD					.04		.36	.03	.69	1.26	.52		2.90
SABLEFISH	.03				.11			.01			.01	.01	.17
POLLOCK	63.14	137.52	137.34	14.16						2.76	20.13	.15	375.20
HAKE		392.05	2142.20	2236.38	1112.28	281.87	278.97	125.55	56.88	206.22	171.31		7003.71
OCEAN PERCH													
OTHER ROCKF.	.60	.08	.02	.56	.20	.01		.01	.02	.28	.57	.70	3.05
MISC. SP.	4.12	.93	1.13	.37	.07	.02	.25	.32	1.14	1.22	1.63	.89	12.09
DOGFISH		5.14	25.52	18.74	.13	3.75	30.03	12.07	9.83		6.97	34.37	146.55
ANIMAL FOOD		.12											.12
REDUCTION			68.93	69.62									138.55
TOTAL	217.64	571.06	2450.00	2369.31	1129.85	286.73	324.30	224.62	159.32	303.50	306.90	85.35	8428.58

TABLE 9. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 3C SOUTHWEST COAST VANCOUVER ISLAND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	1.83	2.35	7.53	7.59	11.15	13.32	3.87	7.55	11.94	5.24	4.58	.01	76.96
ROCK S.	1.40	12.83	23.57	42.76	23.64	24.71	18.66	18.32	16.47	8.01	8.72	5.27	204.36
PETRALE S.	4.84	96.16	92.38	8.16	18.40	17.93	23.59	36.46	51.02	10.99	16.61	8.72	385.26
DOVER S.	13.28	56.89	255.27	263.93	71.91	34.61	17.61	13.68	10.62	10.52	97.58	43.22	889.12
REX SOLE		2.34	.16	.41			.39		.01				3.31
STARRY FLDR		.04	.05	.40	.37	.22	.01				12.70	23.18	36.97
TURBOT			2.24	1.31	.03	27.18	.45		2.15		3.78	.08	37.22
OTHER FLAT.	.18	2.18	.32	.03	.28	.02	.02			.01	.56		3.60
PACIFIC COD	108.53	1533.65	266.22	135.22	221.47	140.02	94.99	56.16	130.07	44.75	10.71	11.95	2753.74
LINGCOD		.13	.68		62.18	159.12	210.48	219.03	160.28	21.28	11.71	2.46	847.35
SABLEFISH	5.13	1.21	13.53	15.33	57.98	69.45	101.36	33.72	18.32	5.45	2.86	1.17	325.51
POLLOCK		27.01							3.42	2.34			32.77
HAKE		56.31		10.81	87.11	327.96	500.25	9.75	411.58	274.11			1677.88
OCEAN PERCH	8.22	32.55	23.47	7.16	23.67	20.54	13.90	2.94	8.54	13.60	16.97	16.59	188.15
OTHER ROCKF.	129.18	71.53	72.42	94.34	222.27	288.30	186.64	47.50	170.12	133.20	178.98	45.01	1639.49
MISC. SP.	.25	1.04	2.08	1.67	1.36	1.18	.23	.27				.02	8.10
DOGFISH		12.84	59.14	585.86	127.77					21.82	11.06		818.49
ANIMAL FOOD				1.50									1.50
REDUCTION		1.70	.03	8.91	1.78	5.18	1.81		1.18	5.22	6.20		32.01
TOTAL	272.84	1910.76	819.09	1185.39	931.37	1129.74	1174.26	445.38	995.72	556.54	383.02	157.68	9961.79

TABLE 10. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 3D NORTHWEST COAST VANCOUVER ISLAND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.01	.08	.52	1.55	5.36	3.12	3.25	.34	3.97	2.32	.37		20.89
ROCK S.	.01		.18		.04	3.25	4.89	2.10	5.95	17.20			33.62
PETRALE S.	.83	60.72	46.60	2.36	12.83	13.59	7.71	2.56	5.20	7.22	11.00	6.56	177.18
DOVER S.	.35	72.49	141.50	76.31	35.48	34.83	5.84	1.46	12.57	13.56	22.65	12.95	429.99
REX SOLE			.51		.14	.59	.08			.05	.08		1.45
STARRY FLDR									.74	.92	23.54	.76	34.28
TURBOT			3.99		4.33					.19		.73	2.81
OTHER FLAT.	.16	1.57	.06		.04	.06							
PACIFIC COD	2.07	6.61	41.87	23.38	53.07	21.94	26.72	3.93	24.78	25.18	3.85	1.24	234.64
LINGCOD	.55	.48	.02	2.84	118.73	35.69	37.62	15.73	22.45	44.66	17.77	3.10	299.64
SABLEFISH	.02	3.38	9.87	5.35	36.50	34.64	4.88	.25	7.65	7.35	4.27	.71	114.87
POLLOCK													
HAKE													
OCEAN PERCH	56.03	113.18	76.84	131.53	107.29	43.91	40.73	1.10	83.81	196.26	203.55	24.96	1079.19
OTHER ROCKF.	472.91	554.28	429.53	329.48	407.57	183.20	114.69	82.78	447.79	751.18	324.32	40.51	4138.24
MISC. SP.	.03		.01	.29	.06	.05	.01			.06			.51
DOGFISH				8.20	10.53					.66			19.39
ANIMAL FOOD													
REDUCTION	3.76	1.06	6.45	.38	7.92	4.36	.93		5.34	4.53	.84		35.57
TOTAL	536.73	813.85	757.95	581.67	799.89	379.23	247.35	110.25	620.25	1071.34	612.24	91.52	6622.27

TABLE 11. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5A SOUTH QUEEN CHARLOTTE SOUND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	1.28	1.80	.21	1.73	1.06	2.25	1.24	1.82	1.65	5.62	2.15	1.87	22.68
ROCK S.	.28	1.25		2.65	36.16	29.71	27.31	17.36	14.68	11.19	1.51	.11	142.21
PETRALE S.	.73	1.97	.13	.94	6.54	7.89	11.11	5.99	16.78	12.92	13.00	1.68	79.68
DOVER S.	.05	.29	.01		2.94	6.31	6.26	3.71	8.84	7.63	7.82	4.75	48.61
REX SOLE									.56	.56			1.12
STARRY FLDR	.05	.28											.33
TURBOT			.16			50.50	2.50		66.84	17.73	5.84		143.57
OTHER FLAT.		.21	.46	.47						.02	.85		2.01
PACIFIC COD	5.18	10.93	3.06	11.28	96.89	90.18	82.69	22.18	56.65	49.20	32.37	17.96	478.57
LINGCOD	.34	2.29	1.48	40.27	77.52	162.82	173.87	88.01	173.76	109.04	39.74	9.84	878.98
SABLEFISH	.01				.30	6.02	1.69	3.72	3.23	1.79	.58		17.34
POLLOCK		1.26										1.09	2.35
HAKE													
OCEAN PERCH	3.65	5.00		17.47	72.16	77.50	88.24	16.95	25.05	29.51	21.70	5.10	362.33
OTHER ROCKF.	221.14	269.90	53.77	155.46	191.58	146.07	134.39	47.92	402.39	244.69	152.48	73.14	2092.93
MISC. SP.	.05	.12		.71	.02	.53	.36	.01	.09	.35			2.24
DOGFISH	.73	4.33			2.71					22.43			30.20
ANIMAL FOOD													
REDUCTION					.35		6.38		2.63				9.36
TOTAL	233.49	299.63	59.28	230.98	488.23	579.78	536.04	207.67	773.15	512.68	278.04	115.54	4314.51

TABLE 12. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5B NORTH QUEEN CHARLOTTE SOUND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.88			2.88	3.82	4.54	2.16	5.91	7.85	.61	1.90	1.56	32.11
ROCK S.		.16	.43	2.63	10.44	44.67	47.45	53.02	68.92	15.49	5.35	1.69	250.25
PETRALE S.	1.82	.21	35.40	26.13	5.70	11.38	17.02	15.96	6.17	4.26	7.67	6.48	138.20
DOVER S.	.49	.04	16.65	8.66	4.25	11.12	4.43	9.09	11.25	4.01	1.93	1.12	73.04
REX SOLE		.17		.21			.15	.18	.03	.04		.06	.84
STARRY FLDR										64.95	257.65	.24	347.31
TURBOT		21.40				3.07							1.01
OTHER FLAT.	.51						.34	.05	.11				
PACIFIC COD	2.17	1.82	3.14	11.19	58.26	90.71	24.39	25.91	30.27	23.87	6.14	6.13	284.00
LINGCOD	.15	3.25	2.08	27.00	54.15	187.13	147.82	122.11	118.71	50.23	18.31	6.63	737.57
SABLEFISH	.11	.11	7.56	9.23	1.32	4.82	2.61	1.47	1.54	2.28	3.25	.32	34.62
POLLOCK					.62	1.97	.52				.53		3.64
HAKE													
OCEAN PERCH	73.31	196.43	102.87	240.67	272.85	243.95	278.98	62.78	93.16	194.58	160.04	36.85	1956.47
OTHER ROCKF.	57.60	153.51	106.69	837.42	1663.99	837.66	392.50	109.67	468.58	423.30	209.83	135.78	5396.53
MISC. SP.		.76	.25	.28	.97	7.80	6.76	.45	.97	.80		.42	19.46
DOGFISH													.60
ANIMAL FOOD					.60								
REDUCTION		4.03		12.85	3.34	4.01	3.61		2.63	10.80	5.64		46.91
TOTAL	137.04	381.89	275.07	1179.15	2080.31	1452.83	928.74	406.60	810.19	795.22	678.24	197.28	9322.56

TABLE 13. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5C SOUTH HECATE STRAIT.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.64	9.11	.68	6.93	8.78	8.04	1.08		7.77	63.48	6.45	1.07	114.03
ROCK S.	1.68	8.00	9.53	58.17	206.78	28.76	1.11	.19	16.33	53.35	26.31	.27	410.48
PETRALE S.	.18	2.52	.50	2.99	2.40	22.40	8.00	.17	44.18	33.87	7.08	.50	124.79
DOVER S.		.02			.95	1.27	6.60	.56	1.26	3.00	1.82	.04	15.52
REX SOLE	.05	3.22	.48	.34	.38		.72	.05	.40	.91	.22		6.77
STARRY FLDR													
TURBOT						3.25				.99	.17		4.41
OTHER FLAT.			.01		.44					.05			.50
PACIFIC COD	20.86	509.08	480.52	154.11	251.14	125.40	106.80	.14	55.83	37.24	9.78	3.76	1754.66
LINGCOD	1.71	4.73	5.00	7.02	22.32	30.28	5.45	.05	17.47	22.45	7.91	3.97	128.36
SABLEFISH				.06	.81	1.52		.14	1.47	2.59	.40		6.99
POLLOCK													
HAKE													
OCEAN PERCH	1.77	6.61	.09	102.46	83.56	19.89		9.54	15.78	82.69	21.95		344.34
OTHER ROCKF.	54.37	300.37	9.61	266.35	116.94	66.40	28.57	2.80	60.58	221.03	141.40	5.40	1273.82
MISC. SP.	.58	1.55	2.08	.16	3.46	1.10			.01	.94	.59		10.47
DOGFISH													
ANIMAL FOOD													
REDUCTION		8.12		11.08	9.12	.29			.82	.88			30.31
TOTAL	81.84	853.33	508.50	609.67	707.08	308.60	158.33	13.64	221.90	523.47	224.08	15.01	4225.45

TABLE 14. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5D NORTH HECATE STRAIT.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	14.32	88.49	59.35	79.44	155.75	101.30	57.07	8.33	39.31	59.04	39.35	8.88	710.63
ROCK S.	38.18	19.27	57.97	109.45	150.42	215.61	29.46	3.84	88.67	183.48	88.26	24.52	1009.13
PETRALE S.	.84	.53	.67	.59	.94	3.26	1.03		1.05	11.39	4.49	1.99	26.78
DOVER S.		.28	.20	1.60	44.50	110.96	178.26	51.82	109.90	50.58	10.12	.32	558.54
REX SOLE	6.57	7.64	2.12	2.67	5.70	7.40	33.78	13.32	22.05	10.66	2.31	.36	114.58
STARRY FLDR	.30	6.98	8.25	1.70	1.26	1.16	2.54	1.42	6.08	4.32	5.03		39.04
TURBOT		7.68	.38		7.37	11.83	2.28	1.18		.03			30.75
OTHER FLAT.		4.68	2.36	2.18	5.98	6.86	.07		2.51	.77	.59		26.00
PACIFIC COD	300.64	440.39	964.46	501.77	373.87	234.66	50.23	7.00	48.26	25.12	53.31	23.39	3023.10
LINGCOD	7.40	6.35	17.71	10.51	36.70	28.66	11.37	1.18	7.05	5.55	5.78	2.06	142.32
SABLEFISH	.01				.42	.24	3.12	.59	.16	.04	1.20	.01	5.79
POLLOCK		.33	9.80	10.00	.18	.25	.52		1.47	5.87		.27	28.69
HAKE													
OCEAN PERCH		.06	2.00		.34	.71	1.56		1.27				5.94
OTHER ROCKF.	5.73	1.61	15.82	12.77	8.57	7.07	12.56	1.68	7.75	10.17	8.58	10.84	103.15
MISC. SP.	9.94	42.73	4.83	8.83	14.67	9.55	2.00		.64	2.57	5.76	3.47	104.99
DOGFISH				2.72									2.72
ANIMAL FOOD	1.64	4.37	.94	2.30	4.50	17.11	16.73	2.24	.63				50.46
REDUCTION	1.95	2.07		5.30	10.35	.09	7.54						27.30
TOTAL	387.52	635.46	1146.86	751.83	821.52	756.72	410.12	92.60	336.80	369.59	224.78	76.11	6009.91

TABLE 15. 1989 BRITISH COLUMBIA TRAWL LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5E WEST COAST QUEEN CHARLOTTE ISLANDS.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													.02
ROCK S.			.02							.03		.23	20.03
PETRALE S.	1.52	2.93	10.56	3.30	1.26	.15	.05			1.24	4.09	.71	132.50
DOVER S.	2.42	8.29	30.20	28.51	45.31	10.73	.87	.13				.04	11.42
REX SOLE	.05	.23	1.59	1.26	3.48	4.77							
STARRY FLDR												7.18	11.50
TURBOT			4.13	.19									
OTHER FLAT.										.71	.38	.12	5.77
PACIFIC COD	1.32	1.40	.36	.04	.63	.06	.69	.06		4.46	8.45	.97	19.99
LINGCOD	1.63	.99	1.02	.26	.71	1.50							
SABLEFISH	10.46	12.50	29.42	7.44	19.68	25.92	2.63	1.66	1.85	2.86	3.13	.54	118.09
POLLOCK													
HAKE													
OCEAN PERCH	168.35	121.79	268.06	200.41	420.92	276.65	61.37	91.08	44.42	217.35	140.13	56.42	2066.95
OTHER ROCKF.	115.18	210.62	267.93	212.75	162.34	233.47	145.59	73.09	100.87	232.98	271.75	84.94	2111.51
MISC. SP.													
DOGFISH										1.53			73.43
ANIMAL FOOD	1.61	4.59	7.38	3.29	11.80	8.51	34.72						32.91
REDUCTION		.79	18.40	.62	.25		12.85						
TOTAL	302.54	364.13	639.07	458.07	666.38	561.76	258.77	166.02	147.14	461.16	427.93	151.15	4604.12

Tables of monthly catch (t) by minor area

TABLE 16. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 12

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	2.95	1.29	1.02							4.56	6.98		16.80
ROCK SOLE	1.34	1.62	.38							.32	1.97		5.63
PETRALE S.													
DOVER SOLE													
REX SOLE		.01											.01
BUTTER SOLE													
FLATHEAD S.	.32	.30											.62
SAND SOLE	1.00	1.42								2.65	.45		5.52
TURBOT													
STAR.FLDR	.86	.57	.67							1.08	3.20		6.38
OTHER FLAT.											.44		.44
PACIFIC COD	1.38	.19	.37							1.19	1.03		4.16
LINGCOD										.01	.01		.02
SABLEFISH													
POLLOCK													
OCEAN PERCH													
BOCACCIO	.01												.01
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF	.05												.05
YEL'MOUTH R													
YEL'TAIL RF		.03	.01										.04
WIDOW RF													
OTHER RF	.23	.01								.18	.44		.86
HAKE													
OCTOPUS											.01		.01
PERCH													
SKATE	2.25	.36	.06							.26	.46		3.39
SQUID													
STURGEON													
MISC. SP.											.01		.01
DOGFISH													
REDUCTION													
ANIMALFOOD		.12											.1
TOTAL	10.39	5.92	2.51							10.25	15.00		44.07
DUMPED FISH													
DISCARDS	1.91	.64											2.55

TABLE 17. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 13

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.03		.04										.07
ROCK SOLE	.14										.85		.99
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE	.27												.27
TURBOT													
STAR.FLDR	15.47	1.06	1.81								1.35		19.69
OTHER FLAT.													
PACIFIC COD	.07		.08										.15
LINGCOD													
SABLEFISH													
POLLOCK													
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF													
HAKE													
OCTOPUS													
PERCH													
SKATE	.58										.09		.67
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL	16.56	1.06	1.93								2.29		21.84
DUMPED FISH													
DISCARDS	.60												.60

TABLE 18. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 14

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	2.94	1.09	.35		.08						.06	1.12	5.64
ROCK SOLE	.61				.16					2.34	.38		3.49
PETRALE S.					.03								.03
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR										.63	4.14		4.77
OTHER FLAT.		.91									.16	.33	1.40
PACIFIC COD	17.33	3.38	1.74		7.19	.81	.05		1.53		.97	3.76	36.76
LINGCOD					.01		.31						.32
SABLEFISH					.11			.01					.12
POLLOCK											5.14		5.14
OCEAN PERCH													
BOCACCIO													
CANARY RF						.01							.01
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF	.23				.01							.18	.42
HAKE			391.54	364.39	151.04					159.11	155.83		1221.91
OCTOPUS								.01					.01
PERCH													
SKATE		.05						.01		.12	.31		.49
SQUID													
STURGEON													
MISC. SP.													
DOGFISH		.86	5.01	4.32		3.75	30.03	9.89				6.53	60.39
REDUCTION			1.59	24.78									26.37
ANIMALFOOD													
TOTAL	21.11	6.29	400.23	393.49	158.63	4.57	30.39	9.92	1.53	162.20	166.99	11.92	1367.27
DUMPED FISH													
DISCARDS	8.26		.14		35.88	.91	13.27	.32			1.13		59.91

TABLE 19. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 15

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE													
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR			9.96								4.09		14.05
OTHER FLAT.													
PACIFIC COD													
LINGCOD													
SABLEFISH													
POLLOCK													
OCEAN PERCH													
BOCACCIO													
CAMARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF													
HAKE													
OCTOPUS													
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH			.45										.45
REDUCTION													
ANIMALFOOD													
TOTAL			10.41								4.09		14.50
DUMPED FISH													
DISCARDS													

TABLE 20. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 16

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE													
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD													
LINGCOD													
SABLEFISH													
POLLOCK	63.14	28.60								2.76	14.99		109.49
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF													
HAKE										47.11	15.48		62.59
OCTOPUS													
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL	63.14	28.60								49.87	30.47		172.08
DUMPED FISH													
DISCARDS													

TABLE 21. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 17

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.		2.25	.23		.18						2.67	5.10	10.43
ROCK SOLE	.25				.09							2.52	2.86
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE												.17	.17
TURBOT												.10	.10
STAR.FLDR	.16	.08										.56	.80
OTHER FLAT.		.05		.23							.32	.37	.97
PACIFIC COD	.55	4.28		.17	.09						.26	1.52	6.87
LINGCOD													
SABLEFISH													
POLLOCK		32.98	104.16	2.31									139.45
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF					.13						.04	.35	.52
HAKE		32.84	1277.32	1173.02	897.14			36.93					3417.25
OCTOPUS												.02	.02
PERCH													
SKATE	.07		.27	.16	.06						.04	.26	.86
SQUID													
STURGEON													
MISC. SP.													
DOGFISH			10.88	1.14	.13								12.15
REDUCTION			60.83	40.82									101.65
ANIMALFOOD													
TOTAL	1.03	72.48	1453.69	1217.85	897.82			36.93			3.33	10.97	3694.10
DUMPED FISH													
DISCARDS												.59	.59

TABLE 22. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 18

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.65	3.05	3.55	.71	.11			2.16	1.82	3.27	5.37	2.45	23.14
ROCK SOLE	.12	.09		.43				.11	.35	.48	.64	.14	2.36
PETRALE S.	.26												.26
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.												.02	.02
SAND SOLE													
TURBOT											.04	.76	.96
STAR.FLDR		.10	.06								.04	.84	2.48
OTHER FLAT.	1.60												
PACIFIC COD	22.29	12.15	9.77	8.34	4.18			2.12	1.42	4.45	5.37	3.73	73.82
LINGCOD								.02		.07	.08		.17
SABLEFISH	.03												.03
POLLOCK		.12											.12
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF	.07	.03			.06				.02	.09	.07	.09	.43
HAKE									.01		.05		.24
OCTOPUS	.15	.03										.02	.02
PERCH													
SKATE	.51	.20	.08					.16	.27	.12	.29	.25	1.88
SQUID													
STURGEON													
MISC. SP.								2.18	9.83		1.80	3.43	17.24
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL	25.68	15.77	13.46	9.48	4.35			6.75	13.72	8.48	13.75	11.73	123.17
DUMPED FISH													
DISCARDS	.36								1.32	1.27		.64	3.59

TABLE 23. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 19

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.06		.25	.28	.09	.03	.13	.27	.66	.06	.22	.20	2.25
ROCK SOLE			.01					.01	.24	.66	.02	.14	1.08
PETRALE S.			.04						.04				.08
DOVER SOLE									.10	.01	.01		.12
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT	.17								.04	.01			.22
STAR.FLDR													
OTHER FLAT.	.40		.01						.03	.01	.01	.01	.47
PACIFIC COD	78.14	.64	35.30	17.61	3.73	.24	14.51	81.96	84.51	70.04	64.72	25.06	476.46
LINGCOD					.01		.05	.01	.69	1.18	.43		2.37
SABLEFISH											.01	.01	.02
POLLOCK												.15	.15
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF											.02	.04	.06
WIDOW RF													
OTHER RF	.01								.01			.04	.06
HAKE													
OCTOPUS			.05	.02			.01	.01	.03	.02	.04	.04	.22
PERCH													
SKATE	.50		.37	.16		.02	.23	.12	.83	.70	.33	.29	3.55
SQUID												.01	.01
STURGEON													
MISC. SP.												.01	.01
DOGFISH		.97									5.17	24.41	30.55
REDUCTION													
ANIMALFOOD													
TOTAL	79.28	1.61	36.03	18.07	3.83	.29	14.93	82.38	87.18	72.69	70.98	50.41	517.68
DUMPED FISH	.35												.35
DISCARDS	1.34	.14							13.38	11.75	1.94		28.55

TABLE 24. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 20

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.			4.22	.44	.44								5.10
ROCK SOLE													
PETRALE S.			.07										.07
DOVER SOLE				.93	.41								1.34
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.			.10										.10
PACIFIC COD	.07		4.83	.34	.25								5.49
LINGCOD					.02								.02
SABLEFISH													
POLLOCK													
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF			.01	.56									.57
WIDOW RF													
OTHER RF													
HAKE					64.10	281.87	278.97	88.63	56.88				770.45
OCTOPUS			.03	.01									.04
PERCH													
SKATE			.26	.03									.29
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL	.07		9.52	2.31	65.22	281.87	278.97	88.63	56.88				783.47
DUMPED FISH													
DISCARDS		.45	2.90										3.35

TABLE 25. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 29

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.22	.31										.22	.75
ROCK SOLE													
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.		.31											.31
PACIFIC COD	.12	.05										.10	.27
LINGCOD													
SABLEFISH													
POLLOCK		75.82	33.18	11.85									120.85
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF													
HAKE		359.21	473.34	698.96									1531.51
OCTOPUS													
PERCH													
SKATE	.05	.31											.36
SQUID													
STURGEON													
MISC. SP.													
DOGFISH		3.31	9.17	13.29									25.77
REDUCTION			6.51	4.01									10.52
ANIMALFOOD													
TOTAL	.39	439.32	522.20	728.11								.32	1690.34
DUMPED FISH													
DISCARDS													

TABLE 26. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 21

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.		.10		.41	.51	.65	.31						1.98
ROCK SOLE		.03		.01	.99	1.17	3.11	1.14	.10	.16	.17		6.88
PETRALE S.		.04		.27	1.70	2.46	.35	1.15	2.56		.06		8.59
DOVER SOLE		3.13			3.01	.75	.95	2.34		.68			10.86
REX SOLE							.27						.27
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT									2.15				2.15
STAR.FLDR													
OTHER FLAT.					.11		.02						.13
PACIFIC COD		1.30		10.64	33.38	17.14	16.21	6.38	2.10		.05		87.20
LINGCOD					10.00	2.67	3.17	1.97	1.63	.90			20.34
SABLEFISH		.31			9.19	31.59	54.78	3.90	2.05				101.82
POLLOCK													
OCEAN PERCH	2.18	8.00			4.75	.44	5.41						20.78
BOCACCIO		5.23			2.91	3.12	.05			1.48			12.79
CANARY RF	11.93	.48			13.25	19.84	10.12	2.94	5.42	5.58			69.56
REDSTR. RF	5.91	1.73			2.86	3.89	.40		1.01	5.38			21.18
ROUGHEYE RF					.70								.70
SIL'GRAY RF	7.16	10.55			2.04	1.19	3.10						24.04
YEL'MOUTH R		1.15					2.71				1.82		5.68
YEL'TAIL RF				.01	67.58	2.04	14.62	.89	6.19	.41			91.74
WIDOW RF					9.32	.26	17.97		9.72				37.27
OTHER RF		.07			3.33	.01	1.98			.59	.91		6.89
HAKE						19.59	313.78	9.75	111.18	245.46			699.76
OCTOPUS													
PERCH													
SKATE				.05	.03		.08						.16
SQUID													
STURGEON								.01					.01
MISC. SP.													
DOGFISH													
REDUCTION		1.62								4.72	.07		6.41
ANIMALFOOD													
TOTAL	27.18	33.74		11.39	165.66	106.81	449.39	30.47	144.11	265.36	3.08		1237.19
DUMPED FISH DISCARDS	3.63	45.36		.23	59.42	43.55	13.29		52.16	63.96	2.27		283.87

TABLE 27. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 23

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	1.82	2.19	4.65	4.39	7.52	7.39	2.99	4.64	11.02	2.41	.46	.01	49.49
ROCK SOLE	1.40	12.59	23.46	40.91	19.59	11.71	9.83	16.33	10.01	2.60	.91	.15	149.49
PETRALE S.	2.19	6.97	14.80	.36	11.66	7.89	20.30	29.74	34.10	6.96	9.36	5.99	150.32
DOVER SOLE	12.78	5.52	126.40	55.82	11.27	16.84	8.41	7.06	5.73	3.90	44.72	32.54	330.99
REX SOLE		.50					.12		.01				.63
BUTTER SOLE													
FLATHEAD S.			.25										.25
SAND SOLE													
TURBOT			.90			16.45					2.21	.08	19.64
STAR.FLDR		.04		.40	.37	.22							1.03
OTHER FLAT.	.18	1.41		.03									1.62
PACIFIC COD	108.51	1490.80	214.32	108.93	131.48	74.27	67.50	42.49	121.94	22.52	4.43	9.26	2396.45
LINGCOD			.68		31.69	83.49	158.90	160.23	73.19	7.81	.94		516.93
SABLEFISH	4.96	.62	5.61	7.28	34.80	25.82	46.57	29.20	14.83	1.35	1.02	1.17	173.23
POLLOCK		27.01							3.42	2.34			32.77
OCEAN PERCH	2.90	5.48	16.62	1.09	9.31	14.54	8.50	2.94	1.89	1.37	7.34	15.44	87.42
BOCACCIO					11.68	12.86	5.57	7.08	2.69	1.98	1.30	.53	43.69
CANARY RF	3.60	5.01	2.59	4.64	28.10	49.29	73.18	10.72	16.77	5.38	2.56	1.49	203.33
REDSTR. RF	4.53	3.80	.21	6.68	10.71	34.68	23.26	1.35	10.31	4.40	2.51	1.55	103.99
ROUGHEYE RF	1.20	1.36	2.50	.43	1.50	.44					7.63	6.28	21.34
SIL'GRAY RF	32.79	13.64	1.37	3.73	10.09	28.23	8.92		2.43	1.71	2.96	.84	106.71
YEL'MOUTH R	.46				.25	1.12		.11	.36	.52	.87		3.69
YEL'TAIL RF		.01	12.67	2.02	2.01	17.63	3.37	12.16	21.15	2.52	5.83		79.37
WIDOW RF			3.71			13.46			32.48		.91		50.56
OTHER RF	9.25	.15	5.20	1.67	6.75	7.22	5.45	.74	.28	4.14	8.80	6.79	56.44
HAKE		56.31		10.81	66.50	308.37	165.94		297.58	28.65			934.16
OCTOPUS	.01	.07	.01	.03	.09	.02		.01					.24
PERCH													
SKATE	.11	.79	1.79	1.33	1.11	.86	.15	.16				.02	6.32
SQUID													
STURGEON	.13	.13	.04	.01	.03	.01							.35
MISC. SP.													
DOGFISH		12.84	59.14	570.01	127.77					21.82	11.06		802.64
REDUCTION			.03	8.91	.97	4.14	.66		1.18	.50	6.13		22.52
ANIMALFOOD													
TOTAL	186.82	1647.24	496.95	829.48	525.25	736.95	609.62	324.96	661.37	122.88	121.95	82.14	6345.61
DUMPED FISH								1.51	5.35				6.86
DISCARDS	1.81	11.34	22.00	1.81	122.02	103.74	66.68	15.88	59.88	49.49	5.90	24.04	484.59

TABLE 28. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 24

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.01	.06	2.89	2.78	3.12	5.29	.57	2.91	.92	2.83	4.12		25.50
ROCK SOLE		.21	.11	1.84	3.06	11.83	5.72	.85	6.37	5.26	7.65	5.12	48.02
PETRALE S.	2.65	89.16	77.59	7.53	5.04	7.58	2.94	5.57	14.36	4.02	7.20	2.72	226.36
DOVER SOLE	.49	48.24	128.87	208.11	57.63	17.03	8.25	4.27	4.89	5.94	52.85	10.68	547.25
REX SOLE		1.83	.16	.41									2.40
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE		.68								.01	.56		1.25
TURBOT			1.34	1.31	.03	10.74	.45				1.57		15.44
STAR.FLDR			.05				.01				12.70	23.18	35.94
OTHER FLAT.		.09	.07		.17	.02							.35
PACIFIC COD	.02	41.55	51.91	15.65	56.62	48.61	11.29	7.29	6.04	22.24	6.23	2.69	270.14
LINGCOD		.13			20.49	72.96	48.40	56.83	85.46	12.56	10.78	2.46	310.07
SABLEFISH	.16	.29	7.92	8.04	13.99	12.04	.01	.61	1.43	4.10	1.84		50.43
POLLOCK													
OCEAN PERCH	3.14	19.08	6.85	6.07	9.60	5.56			6.64	12.23	9.63	1.15	79.95
BOCACCIO			.08	1.13	.12	4.84	.34	4.85	8.87	9.36	14.09	1.06	44.74
CANARY RF	2.28	1.80	6.61	6.76	5.16	36.33	7.87	5.55	30.08	31.95	23.30	8.45	166.14
REDSTR. RF	.37	1.85	4.53	19.79	1.64	21.44		.84	6.67	2.94	19.06	3.02	82.15
ROUGHEYE RF	.33	6.24	15.69	8.56	12.82	1.58	7.61			1.87	16.63	2.28	73.61
SIL'GRAY RF		8.49	7.11	13.96	.63	18.14	.05	.05	7.60	11.73	24.14	9.77	101.67
YEL'MOUTH R	1.12		4.82	1.64	.02				1.03	13.39	10.70	.98	33.70
YEL'TAIL RF	40.68	1.22	.27	6.25	18.56	5.78		.21	4.63	4.21	5.35	1.76	88.92
WIDOW RF	.26			.19		.65				1.35	7.24	.06	9.75
OTHER RF	7.32	8.75	5.08	16.87	10.23	4.25	.08		2.45	22.33	22.37	.16	99.89
HAKE					20.61		20.53		2.81				43.95
OCTOPUS			.03	.04		.03							.10
PERCH													
SKATE		.04	.21	.20	.07	.21		.10					.83
SQUID													
STURGEON				.01	.02	.05							.08
MISC. SP.													
DOGFISH				15.85									15.85
REDUCTION		.08			.81	1.04	1.15						3.08
ANIMALFOOD				1.50									1.50
TOTAL	58.83	229.79	322.19	344.49	240.44	286.00	115.27	89.93	190.25	168.32	258.01	75.54	2379.06
DUMPED FISH								.24	1.66	.22	.78		2.90
DISCARDS		3.31	25.49	16.87	46.83	24.36	9.07	.65		4.54	2.95	.93	135.00

TABLE 29. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 25

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.01	.08	.06	.15	4.69	2.97	3.25		3.35	2.20	.25		17.01
ROCK SOLE	.01					2.24	.72		.08	.84			3.89
PETRALE S.	.23	53.62	35.61	1.07	10.54	13.28	6.39	2.22	3.20	4.99	6.27	6.46	143.88
DOVER SOLE		71.60	139.57	52.47	34.06	33.55	4.10	.32	6.81	8.40	20.94	12.78	384.60
REX SOLE			.51			.59	.04			.05	.08		1.27
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT			3.99		4.33						22.85	.76	31.93
STAR.FLDR													
OTHER FLAT.		1.54			.04	.06						.19	1.83
PACIFIC COD	.59	1.76	4.25	.26	35.58	14.75	25.17	.15	6.61	12.57	2.73	.06	104.48
LINGCOD		.48		.42	100.53	32.59	34.80	1.64	4.87	17.85	8.07	1.20	202.45
SABLEFISH		3.38	9.87	3.86	14.80	33.38	2.89		2.48	1.90	1.99	.71	75.26
POLLOCK													
OCEAN PERCH		8.49	18.44	7.02	19.69	7.63	3.48		2.68	10.72	6.33	2.82	87.30
BOCACCIO	1.87	2.81	1.42	22.64	24.46	5.99	1.51		3.50	38.31	16.75	1.44	120.70
CANARY RF	2.03	6.31	3.43	10.75	58.44	36.66	17.13	1.71	53.48	108.15	23.40	2.62	324.11
REDSTR. RF	4.07	5.20	3.02	.34	25.89	13.73	3.10		5.72	6.01	10.21	1.51	78.80
ROUGHEYE RF		9.06	9.51	.07	10.35	4.39				.51	6.26	4.09	44.24
SIL'GRAY RF	5.18	21.25	14.71	26.69	50.26	15.25	19.01	4.48	25.30	64.51	13.95	2.16	262.75
YEL'MOUTH R			3.01	.24	.91	.30			1.35	6.46	.60	.27	13.14
YEL'TAIL RF	323.05	290.77	244.68	49.63	13.43	22.67	5.11		37.22	63.38	29.75	3.76	1083.45
WIDOW RF	36.30	19.19	48.74	.99	1.25	6.43	4.59		8.66	73.13	32.96	.06	232.30
OTHER RF	9.83	15.27	4.77	1.64	6.75	5.82	4.24		3.57	18.67	15.29	.06	85.91
HAKE													
OCTOPUS	.02						.01						.03
PERCH													
SKATE					.06								.06
SQUID													
STURGEON													
MISC. SP.						.02							.02
DOGFISH				4.11									4.11
REDUCTION	3.34	.23	6.45	.38		4.21	.23		2.63	3.06			20.53
ANIMALFOOD													
TOTAL	386.53	511.04	552.04	182.73	416.06	256.51	135.77	10.52	171.51	441.71	218.68	40.95	3324.05
DUMPED FISH									.43	1.09			1.52
DISCARDS	2.72	24.04		1.36	54.07	31.30	3.63		5.67	3.99		.25	127.03

TABLE 30. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 26

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.				.96	.13				.50	.06			1.65
ROCK SOLE			.01							.10			.11
PETRALE S.		.16		.15	.08	.26	.08		1.59	.20	.32		2.84
DOVER SOLE				23.61	.20	.03	1.38	.57	1.48	2.59	.53		30.39
REX SOLE					.14								.14
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.		.04											.04
PACIFIC COD	.10	2.14	.16	3.37	1.26	.23			15.29	5.39	.39	.87	29.20
LINGCOD			.02		6.48	2.31			1.19	10.12	1.96		22.08
SABLEFISH					11.40		1.65		2.82	1.07	.22		17.16
POLLOCK													
OCEAN PERCH		5.68	17.53		1.68	16.71	4.30	1.10	4.24	.28	5.31		56.83
BOCACCIO	1.29	.45		2.73	.91	.54	.07		3.59	9.32	9.47	.93	29.30
CANARY RF	2.04	4.14	3.33	11.43	13.85	11.65	3.66	4.22	48.51	22.43	13.07	2.48	140.81
REDSTR. RF		.15		5.80	.11	.24		1.69	3.45				11.44
ROUGHEYE RF				2.73	.69						1.05	.16	4.63
SIL'GRAY RF	5.22	10.14		41.36	13.38	2.36	5.07	6.34	16.33	50.03	14.45	2.02	166.70
YEL'MOUTH R					.10				.14		.68		.92
YEL'TAIL RF	28.42	42.18	20.89	17.09	6.30		.91	2.48	18.16	8.03	2.25	1.55	148.26
WIDOW RF	9.08	4.91		2.67				.33	4.74	1.93	.09	1.24	24.99
OTHER RF	1.35		.59	.90	2.15					3.90	3.29	2.95	15.13
HAKE													
OCTOPUS													
PERCH													
SKATE				.29									.29
SQUID													
STURGEON													
MISC. SP.													
DOGFISH				4.08	7.82								11.90
REDUCTION													
ANIMALFOOD													
TOTAL	47.50	69.99	42.53	117.17	66.68	34.33	17.12	16.73	122.03	115.45	53.08	12.20	714.81
DUMPED FISH									.83	.18			1.01
DISCARDS	9.07												9.07

TABLE 31. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 27

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.			.46	.44	.53	.15		.34	.13	.07	.12		2.24
ROCK SOLE			.16		.04	1.01	4.18	2.10	5.87	16.26			29.62
PETRALE S.	.60	6.94	10.99	1.14	2.22	.05	1.24	.34	.41	2.03	4.41	.10	30.47
DOVER SOLE	.35	.88	1.93	.24	1.22	1.25	.36	.57	4.28	2.57	1.18	.17	15.00
REX SOLE							.04						.04
BUTTER SOLE													
FLATHEAD S.												.55	.55
SAND SOLE													
TURBOT									.74	.92	.69		2.35
STAR.FLDR													
OTHER FLAT.	.16		.06							.19			.41
PACIFIC COD	1.38	2.71	37.46	19.74	16.23	6.96	1.55	3.78	2.88	7.22	.73	.30	100.94
LINGCOD	.55			2.42	11.71	.79	2.81	14.09	16.39	16.69	7.74	1.89	75.08
SABLEFISH	.02			1.49	10.30	1.25	.34	.25	2.35	4.38	2.05		22.43
POLLOCK													
OCEAN PERCH	56.03	99.01	40.87	124.51	85.92	19.58	32.95		76.89	185.25	191.91	22.15	935.07
BOCACCIO		9.72	.26	1.71	5.95	8.67	1.17	3.71	15.62	21.66	10.55		79.02
CANARY RF	.31	2.74	1.37	7.33	54.03	21.33	28.76	38.49	44.35	57.28	5.04	2.61	263.64
REDSTR. RF	20.28	41.80	37.82	14.92	49.73	4.56	1.44		24.72	73.05	29.74	1.74	299.80
ROUGHEYE RF		1.25		9.13					.29	.41	.34	.54	11.96
SIL'GRAY RF	3.06	33.60	12.25	17.79	17.64	7.59	6.15	17.70	28.00	31.70	8.78	3.84	188.10
YEL'MOUTH R	17.12	16.37	8.07	36.05	22.94	7.95	5.91		46.66	77.32	56.33	3.05	297.77
YEL'TAIL RF		.93	3.89	3.44	4.52	1.95		1.62	16.86	2.43	1.39	1.43	38.46
WIDOW RF		.05	2.01	.64	1.52				30.21	1.54			35.97
OTHER RF	2.42	15.97	5.76	40.77	22.01	5.12	6.85		7.39	11.05	18.62		135.96
HAKE													
OCTOPUS	.01					.01							.02
PERCH													
SKATE			.01			.02				.06			.09
SQUID													
STURGEON													
MISC. SP.													
DOGFISH					2.71					.66			3.37
REDUCTION	.42	.84			7.92	.15	.71		2.72	1.47	.84		15.07
ANIMALFOOD													
TOTAL	102.71	232.81	163.37	281.76	317.14	88.39	94.46	82.99	326.76	514.21	340.46	38.37	2583.43
DUMPED FISH								.76	1.72	.31			2.79
DISCARDS		2.04	.91		16.10	3.63			2.27	13.61	.91	.79	40.26

TABLE 32. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 11

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	1.28	1.80	.21	1.73	1.06	2.25	1.24	1.82	1.65	5.62	2.15	1.87	22.68
ROCK SOLE	.28	1.25		2.65	36.16	29.71	27.31	17.36	14.68	11.19	1.51	.11	142.21
PETRALE S.	.73	1.97	.13	.94	6.54	7.89	11.11	5.99	16.78	12.92	13.00	1.68	79.68
DOVER SOLE	.05	.29	.01		2.94	6.31	6.26	3.71	8.84	7.63	7.82	4.75	48.61
REX SOLE									.56	.56			1.12
BUTTER SOLE													
FLATHEAD S.													.46
SAND SOLE			.46										
TURBOT			.16			50.50	2.50		66.84	17.73	5.84		143.57
STAR.FLDR	.05	.28											.33
OTHER FLAT.		.21		.47						.02	.85		1.55
PACIFIC COD	5.18	10.93	3.06	11.28	96.89	90.18	82.69	22.18	56.65	49.20	32.37	17.96	478.57
LINGCOD	.34	2.29	1.48	40.27	77.52	162.82	173.87	88.01	173.76	109.04	39.74	9.84	878.98
SABLEFISH	.01				.30	6.02	1.69	3.72	3.23	1.79	.58		17.34
POLLOCK		1.26										1.09	2.35
OCEAN PERCH	3.65	5.00		17.47	72.16	77.50	88.24	16.95	25.05	29.51	21.70	5.10	362.33
BOCACCIO	31.61	20.29	3.98	3.39	9.42	9.09	4.72	.42	12.48	23.93	25.59	17.35	162.27
CANARY RF	2.39	2.76	3.32	6.69	17.83	21.37	12.17	1.79	16.86	19.84	26.78	6.31	138.11
REDSTR. RF	22.40	80.88	20.03	8.02	12.91	22.30	13.80		66.31	46.66	9.71	2.77	305.79
ROUGHEYE RF					.23	3.74	6.64		.85	4.53	1.95	2.63	20.57
SIL'GRAY RF	63.14	53.32	5.59	34.78	38.45	40.51	28.78	20.64	57.39	51.94	46.43	20.92	461.89
YEL'MOUTH R	45.64	79.15	12.05	90.09	43.62	16.27	48.16	18.95	162.12	60.99	10.64	4.17	591.85
YEL'TAIL RF	26.78	1.73	2.75	4.30	49.40	26.16	11.02	6.08	55.37	14.66	8.22	3.69	210.16
WIDOW RF		4.99	2.22	1.44	2.81	.31	2.46		21.27	2.24	12.98	1.95	52.67
OTHER RF	29.19	26.78	3.84	6.75	16.91	6.32	6.65	.05	9.72	19.90	10.16	13.35	149.62
HAKE				.01	.02	.12	.07	.01		.20			.43
OCTOPUS													
PERCH													1.68
SKATE	.05	.12		.70		.41	.29		.07	.04			
SQUID													
STURGEON									.02	.11			.13
MISC. SP.					2.71					22.43			30.20
DOGFISH	.73	4.33			.35		6.38		2.63				9.36
REDUCTION													
ANIMALFOOD													
TOTAL	233.50	299.63	59.29	230.98	488.23	579.78	536.05	207.68	773.13	512.68	278.02	115.54	4314.51
DUMPED FISH								1.16					1.16
DISCARDS		5.22	.68	18.60	39.98	42.23	117.40		26.99	16.69	11.34	.91	280.04

TABLE 33. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 8

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.88			2.88	3.82	4.54	2.16	5.91	7.85	.61	1.90	1.56	32.11
ROCK SOLE		.16	.43	2.63	10.44	44.67	47.45	53.02	68.92	15.49	5.35	1.69	250.25
PETRALE S.	1.82	.21	35.40	26.13	5.70	11.38	17.02	15.96	6.17	4.26	7.67	6.48	138.20
DOVER SOLE	.49	.04	16.65	8.66	4.25	11.12	4.43	9.09	11.25	4.01	1.93	1.12	73.04
REX SOLE		.17		.21			.15	.18	.03	.04		.06	.84
BUTTER SOLE													
FLATHEAD S.								.05					.05
SAND SOLE													
TURBOT		21.40				3.07				64.95	257.65	.24	347.31
STAR.FLDR													
OTHER FLAT.	.51						.34		.11				.96
PACIFIC COD	2.17	1.82	3.14	11.19	58.26	90.71	24.39	25.91	30.27	23.87	6.14	6.13	284.00
LINGCOD	.15	3.25	2.08	27.00	54.15	187.13	147.82	122.11	118.71	50.23	18.31	6.63	737.57
SABLEFISH	.11	.11	7.56	9.23	1.32	4.82	2.61	1.47	1.54	2.28	3.25	.32	34.62
POLLOCK					.62	1.97	.52				.53		3.64
OCEAN PERCH	73.31	196.43	102.87	240.67	272.85	243.95	278.98	62.78	93.16	194.58	160.04	36.85	1956.47
BOCACCIO	.54	5.47	2.82	11.61	14.95	18.30	30.21	.87	22.48	22.87	28.70	16.25	175.07
CANARY RF	1.47	17.69	1.80	64.01	58.52	55.80	41.91	14.34	42.06	41.64	16.65	8.80	364.69
REDSTR. RF	1.24	12.51	11.14	6.10	18.34	53.41	2.94	.06	18.24	60.84	12.44	2.05	199.31
ROUGHEYE RF		.44		4.15	.92	2.85	.38	.04	.42	10.57	3.46	24.83	48.06
SIL'GRAY RF	44.32	40.18	28.32	71.48	69.26	39.79	29.97	31.52	86.37	45.94	12.71	4.25	504.11
YEL'MOUTH R	.35	36.59	4.25	7.76	18.86	22.06	24.94	4.50	9.16	53.52	40.98	21.99	244.96
YEL'TAIL RF	.04	17.30	24.11	518.38	997.69	348.59	133.97	47.03	87.78	71.70	43.94	20.01	2310.54
WIDOW RF	2.69	.15	5.36	130.38	461.28	239.64	97.85	10.31	171.35	40.58	9.68	7.67	1176.94
OTHER RF	6.94	23.18	28.91	23.53	24.17	57.23	30.33	1.00	30.72	75.64	41.27	29.92	372.84
HAKE													
OCTOPUS			.02	.02	.11	.04	.11	.37	.41	.01		.12	1.21
PERCH													
SKATE		.76	.22	.26	.85	7.77	6.66	.08	.56	.79		.30	18.25
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION		4.03		12.85	3.34	4.01	3.61		2.63	10.80	5.64		46.91
ANIMALFOOD					.60								.60
TOTAL	137.03	381.89	275.08	1179.13	2080.30	1452.85	928.75	406.60	810.19	795.22	678.24	197.27	9322.55
DUMPED FISH													
DISCARDS	.68			17.42	73.64	40.69	97.61	3.22	57.80	17.69	3.54	8.16	320.45

TABLE 34. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 2BE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.									5.21	16.13	4.86	1.00	58.03
ROCK SOLE	.34	8.82	.67	6.32	6.20	8.04	.44						
PETRALE S.	.93	8.00	9.45	58.17	201.76	28.53	1.04	.19	16.00	41.05	25.34	.27	390.73
DOVER SOLE	.16	2.28	.11	2.91	2.30	21.11	7.78	.04	42.89	22.48	6.37	.50	108.93
REX SOLE		.02			.45	1.22	.31	.15	1.00	2.30	1.82		7.27
BUTTER SOLE		3.22	.48	.34	.38			.05	.40	.70	.22		5.79
FLATHEAD S.										.02			.02
SAND SOLE													
TURBOT			.01		.44					.04			.49
STAR.FLDR											.17		.17
OTHER FLAT.													
PACIFIC COD	19.62	500.38	473.21	139.48	230.53	102.79	101.67	.06	55.42	24.26	7.38	3.76	1658.56
LINGCOD	1.55	4.45	5.00	5.36	21.43	24.43	5.25	.02	17.12	15.55	6.87	3.97	111.00
SABLEFISH				.06	.81	.37		.14	1.47	2.48	.40		5.73
POLLOCK													
OCEAN PERCH	1.77	6.61	.09	102.46	82.84	19.89		9.54	15.78	81.06	21.95		341.99
BOCACCIO	1.30	6.84	.18	6.30	.79	2.89		.04	1.16	3.36	10.11		32.97
CANARY RF	.61	7.27		20.10	5.35	5.43	3.63		3.60	21.64	26.61	1.24	95.48
REDSTR. RF	8.75	57.72	1.17	24.86	20.87	8.67	12.13		3.46	37.02	18.22		192.87
ROUGHEYE RF		13.15		.30		.43		.03		.50			14.41
SIL'GRAY RF	42.38	139.93	2.64	94.41	33.72	36.12	8.94	1.53	45.58	82.29	39.67	3.98	531.19
YEL'MOUTH R		5.21	.04	7.98	.94	.46		.03	2.10	3.46	3.41		23.63
YEL'TAIL RF	.63	44.38	.85	81.68	17.04	6.11			.39	10.76	7.20		169.04
WIDOW RF		.46		23.28	.08	.21	1.26			24.64	6.98		56.91
OTHER RF	.69	17.26	.41	1.48	4.08	2.71	.20	.74	4.04	1.63	6.96		40.20
HAKE									.01	.31	.59		2.93
OCTOPUS	.13	.60	.60	.16	.50	.03							
PERCH													6.15
SKATE	.45	.82	1.48		2.85	.55							
SQUID													.01
STURGEON		.01											
MISC. SP.													
DOGFISH													29.92
REDUCTION		8.12		10.92	8.89	.29			.82	.88			
ANIMALFOOD													
TOTAL	79.31	835.55	496.39	586.57	642.25	270.28	142.65	12.56	216.45	392.56	195.13	14.72	3884.42
DUMPED FISH													
DISCARDS			39.92	34.02	37.83	14.97	48.83	.54	6.80	98.88	4.99		286.78

TABLE 35. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 5L

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	.31	.29	.01	.61	2.58		.64		2.55	47.35	1.59	.07	56.00
ROCK SOLE	.75		.08		5.02	.23	.07		.33	12.30	.97		19.75
PETRALE S.	.03	.20	.39	.08	.11	1.29	.22	.12	1.29	11.21	.34		15.28
DOVER SOLE						.05	6.29	.40	.26	.11			7.11
REX SOLE	.05						.72			.07			.84
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT						3.25				.99			4.24
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD	1.24	8.22	7.32	14.63	20.48	22.61	5.14	.08	.41	11.91	.46		92.50
LINGCOD	.16	.28		1.66	.89	5.85	.21	.03	.35	6.83	.20		16.46
SABLEFISH						1.15							1.15
POLLOCK													
OCEAN PERCH													
BOCACCIO				1.66	.39	.03	2.33	.43	.21	3.55			8.60
CANARY RF				1.33			.01			1.15			2.49
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF				.72	1.55	1.21	.03		.03	3.12			6.66
YEL'MOUTH R													
YEL'TAIL RF			3.86	.89	29.31	2.13				5.09			41.28
WIDOW RF			.45										.45
OTHER RF				.08	.05		.03		.01	2.60			2.77
HAKE													
OCTOPUS										.47			.47
PERCH													
SKATE		.12				.52				.16			.80
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION				.16	.24								.40
ANIMALFOOD													
TOTAL	2.54	9.11	12.11	21.82	60.62	38.32	15.69	1.06	5.44	106.91	3.56	.07	277.25
DUMPED FISH													
DISCARDS			36.29	4.54	8.62	.91	5.90	1.59	17.37	20.87			96.09

TABLE 36. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 6

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE													
PETRALE S.		.04								.18	.37		.59
DOVER SOLE					.50					.58		.04	1.12
REX SOLE										.13			.13
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD		.48			.13					1.07	1.94		3.62
LINGCOD										.08	.84		.92
SABLEFISH										.11			.11
POLLOCK													
OCEAN PERCH					.72					1.63			2.35
BOCACCIO		.57									1.13		1.70
CANARY RF		1.42		.46	1.18					4.40	5.85		13.31
REDSTR. RF		.59								.67	.40		1.66
ROUGHEYE RF													
SIL'GRAY RF		5.57		.78	1.59					6.67	4.53	.06	19.20
YEL'MOUTH R													
YEL'TAIL RF										6.26	6.40		12.66
WIDOW RF													
OTHER RF				.05						2.23	3.92	.12	6.32
HAKE													
OCTOPUS					.11								.11
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL		8.67		1.29	4.23					24.01	25.38	.22	63.80
DUMPED FISH													
DISCARDS		6.35			1.81					.45			8.61

TABLE 37. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 2AE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.		.13		.22							.05		.40
ROCK SOLE		.02									2.91		2.93
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE		.09											.09
TURBOT													
STAR.FLDR		.08											.08
OTHER FLAT.													
PACIFIC COD		.14									.09		.23
LINGCOD											.01		.01
SABLEFISH													
POLLOCK													
OCEAN PERCH													
BOCACCIO													
CANARY RF													
REDSTR. RF													
ROUGHEYE RF													
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF													
WIDOW RF													
OTHER RF											.09		.09
HAKE													
OCTOPUS													
PERCH													
SKATE		.02											.02
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL		.48		.22							3.15		3.85
DUMPED FISH													
DISCARDS													

TABLE 38. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 1E

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.			.05	.17							.68		.90
ROCK SOLE			6.32	1.70					.22		.86		9.10
PETRALE S.											.35		.35
DOVER SOLE					.29		13.61						13.90
REX SOLE				.18	.20		.83						1.21
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR			.14										.14
OTHER FLAT.													
PACIFIC COD			.37	.31	.07				.14		1.21		2.10
LINGCOD			.01	.86	.14				.06		1.26		2.33
SABLEFISH					.04		.35	.12					.51
POLLOCK										5.38			5.38
OCEAN PERCH					.34		.45						.79
BOCACCIO									.01				.01
CANARY RF									4.48				4.48
REDSTR. RF													
ROUGHEYE RF					.05		1.79						1.84
SIL'GRAY RF													
YEL'MOUTH R													
YEL'TAIL RF									.97	.56			1.53
WIDOW RF													
OTHER RF			.34		.29		.92	.04	.28				1.87
HAKE													
OCTOPUS													
PERCH													
SKATE			.27						.04				.31
SQUID													
STURGEON													
MISC. ZP.			.02						.01				.03
DOGFISH													
REDUCTION													
ANIMALFOOD													
TOTAL			7.52	3.22	1.42		17.95	.16	6.21	5.94	4.36		46.78
DUMPED FISH													
DISCARDS				10.89	40.82				2.22				53.93

TABLE 39. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 4

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	3.69	74.61	44.86	57.51	146.13	97.49	57.01	8.15	36.03	15.05	18.21		558.74
ROCK SOLE	.95	4.95	4.33	39.97	83.41	65.09	12.86	1.72	46.89	83.31	62.15	4.26	409.89
PETRALE S.		.08	.16	.04	.26	1.92	1.01		.71	1.79	.41		6.38
DOVER SOLE		.17	.07	1.31	43.45	88.61	152.56	51.55	104.81	43.17	4.96		490.66
REX SOLE		1.86	1.44	1.68	5.46	6.83	32.02	12.92	21.41	7.29	2.27		93.18
BUTTER SOLE				.11	1.34	1.60	.07		2.26	.25	.01		5.64
FLATHEAD S.					1.11	1.59			.08	.14			2.92
JAMD SOLE		2.74	1.32	1.91	2.85	1.35			.17	.38	.57		11.29
TURBOT		6.20	.13		2.09	2.18	.80	1.18		.03			12.61
STAR.FLDR	.30	5.87	6.79	1.63	1.15	1.15	2.47	1.42	6.08	4.23	5.03		36.12
OTHER FLAT.		1.68	.24										1.92
PACIFIC COD	3.70	79.23	10.67	99.06	274.50	129.16	50.16	6.84	47.87	9.20	9.23		719.62
LINGCOD	1.56	3.99	11.74	4.92	30.67	19.21	11.09	1.02	6.44	1.83	1.64		94.11
SABLEFISH					.37	.23	2.77	.47	.16	.02	.09		4.11
POLLOCK		.33			.18	.25	.52		1.47	.47		.27	3.49
OCEAN PERCH						.69	1.11		1.27				3.07
BOCACCIO				.48	.11	.15	.41	.02	.11	.01	.38		1.67
CANARY RF				.11	.23			.18	.11	.03			.66
REDSTR. RF					.19								.19
ROUGHEYE RF													
SIL'GRAY RF				.44		.01	3.60			.21	.03		4.29
YEL'MOUTH R													
YEL'TAIL RF		.16	.11	.08	2.96	.09	2.64	.10		.20	.04		6.38
WIDOW RF									.19				.19
OTHER RF		.08	.11	1.20	1.15	2.79	2.93	1.17	1.42	.63	.04		11.52
HAKE													
OCTOPUS	.27	.63	.24	.09	.90	.22	.25		.15	.53	.90	.26	4.44
PERCH													
SKATE	4.58	31.93	2.08	6.41	9.26	4.78	1.70			.05	.67	.89	62.35
SQUID													
STURGEON													
MISC. SP.				.03	.07	.03	.02						.15
DOGFISH													
REDUCTION		.48			4.09	.09	7.54						12.20
ANIMALFOOD	.93	1.96	.94	2.30	2.93	1.63	16.73	2.24	.63				30.29
TOTAL	15.98	216.95	85.23	219.28	614.86	427.14	360.27	88.98	278.26	168.82	106.63	5.68	2588.08
DUMPED FISH							6.11						6.11
DISCARDS	4.31	17.51	7.77	21.48	190.82	48.44	19.18	19.60	53.57	42.64	.95		426.27

TABLE 40. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 5U

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.	10.63	13.75	14.44	21.55	9.62	3.80	.07	.18	3.28	43.99	20.41	8.88	150.60
ROCK SOLE	37.22	14.29	47.32	67.78	67.01	150.53	16.60	2.11	41.56	100.17	22.34	20.25	587.18
PETRALE S.	.84	.46	.51	.55	.68	1.34	.02		.34	9.60	3.73	1.99	20.06
DOVER SOLE		.11	.13	.29	.75	22.34	12.09	.27	5.09	7.41	5.15	.32	53.95
REX SOLE	6.57	5.78	.68	.81	.04	.57	.93	.40	.64	3.37	.04	.36	20.19
BUTTER SOLE													
FLATHEAD S.			.02			2.24							2.26
SAND SOLE		.05	.49	.16	.68	.07							1.45
TURBOT		1.48	.25		5.28	9.65	1.48						18.14
STAR.FLDR		1.03	1.32	.07	.11	.01	.07			.09			2.70
OTHER FLAT.		.11	.28										.39
PACIFIC COD	296.94	361.01	953.42	402.41	99.30	105.51	.07	.16	.25	15.92	42.79	23.39	2301.17
LINGCOD	5.85	4.36	5.96	4.73	5.89	9.45	.27	.15	.55	3.73	2.86	2.06	45.86
SABLEFISH	.01				.01	.01				.02	1.10	.01	1.16
POLLOCK			9.80	10.00						.02			19.82
OCEAN PERCH		.06	2.00			.02							2.08
BOCACCIO	2.15	.67	.45	8.63	.79	.06		.17	.04	1.01	3.30	3.63	20.90
CANARY RF		.06		.29	2.24	.01				2.93			5.53
REDSTR. RF			2.56			.75						1.98	5.29
ROUGHEYE RF													
SIL'GRAY RF	.57	.06	5.46			1.74				1.49	3.28	4.77	17.37
YEL'MOUTH R													
YEL'TAIL RF	1.16	.15	5.12	.35	.12	.02				1.07	.17		8.16
WIDOW RF	.07												.07
OTHER RF	1.78	.42	1.67	1.19	.46	1.45	.27		.11	2.02	1.24	.46	11.07
HAKE													
OCTOPUS	.72	1.08	.93	.92	.65	.29	.02		.33	1.14	2.42	2.32	10.82
PERCH													
SKATE	4.37	9.08	1.28	1.37	3.76	4.30			.11	.84	1.77		26.78
SQUID													
STURGEON													
MISC. SP.					.04	.03	.01		.01				.09
DOGFISH				2.72									2.72
REDUCTION	1.95	1.59		5.30	6.25								15.09
ANIMALFOOD	.71	2.41			1.56	15.48							20.16
TOTAL	371.54	418.01	1054.09	529.12	205.24	329.57	31.90	3.44	52.31	194.82	110.60	70.42	3371.06
DUMPED FISH													
DISCARDS	.91	18.69	3.33	4.13	14.01	47.74	14.24	2.81	59.15	31.30	39.46	1.13	236.95

TABLE 41. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 1W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE			.02										.02
PETRALE S.	.70	2.04	8.30	2.95	1.07	.15				.03		.23	15.47
DOVER SOLE	2.42	8.29	20.91	23.17	42.59	10.73		.13		1.24	4.09	.71	114.28
REX SOLE	.05	.23	1.59	1.24	3.48	4.77						.04	11.40
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT			4.13	.19								7.18	11.50
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD	1.32	1.15	.36		.63	.06		.06		.71	.38	.12	4.79
LINGCOD	1.63	.81	1.02	.24	.71	1.33				2.42	8.45	.97	17.58
SABLEFISH	6.82	12.37	19.39	6.96	18.46	25.92		1.43		1.73	1.91	.54	95.53
POLLOCK													
OCEAN PERCH	109.47	84.11	221.54	103.46	383.15	264.31		47.66		158.05	90.21	47.89	1509.85
BOCACCIO			.33			17.42		2.56				.22	20.53
CANARY RF		2.50		1.55	.06	1.56				.79	8.15	.02	14.63
REDSTR. RF		2.69	36.68	27.81	45.80	20.70		3.55		6.92	3.71	3.44	151.30
ROUGHEYE RF	4.21	55.42	99.19	40.31	35.76	72.17		19.33		91.52	47.93	45.16	511.00
SIL'GRAY RF	31.34	60.62	40.39	9.16	28.34	28.71		3.73		30.25	64.56	23.42	320.52
YEL'MOUTH R	10.55	9.52	13.45	44.62	9.75	25.02		5.06		2.22	35.21	2.41	157.81
YEL'TAIL RF				.80									.80
WIDOW RF				.66				.02					.68
OTHER RF	3.94	10.52	11.88	11.33	12.85	28.24		12.38		10.66	14.94	6.90	123.64
HAKE													
OCTOPUS													
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION			3.34										3.34
ANIMALFOOD	.78	4.59	6.53	1.80	11.53	8.51				1.30			35.04
TOTAL	173.23	254.86	489.05	276.25	594.18	509.60		95.91		307.84	279.54	139.25	3119.71
DUMPED FISH											26.49		26.49
DISCARDS	22.68		2.27	2.27	19.01					27.67	27.22	1.13	102.25

TABLE 42. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 2AW

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE													
PETRALE S.	.82	.88	2.26	.35	.19		.05						4.55
DOVER SOLE			9.29	5.34	2.72		.87						18.22
REX SOLE				.02									.02
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD		.25		.04			.69						.98
LINGCOD		.18		.03		.16				2.05			2.42
SABLEFISH	3.64	.13	10.03	.48	1.01		2.63	.19	1.85	1.14	.97		22.07
POLLOCK													
OCEAN PERCH	41.08	37.68	43.28	95.26	11.81	12.34	61.37	35.85	27.02	29.97	49.48		445.14
BOCACCIO		.24			.07			.08		11.52	11.59		23.50
CANARY RF	1.26						2.63		.48	.50			4.87
REDSTR. RF	6.84	16.68	13.41	2.88	.20	1.35	17.32	2.64	34.07	16.81	34.88		147.08
ROUGHEYE RF	14.48	10.55	24.26	30.40	1.88	25.08	65.54	9.56	12.57	16.81	24.29		235.42
SIL'GRAY RF	16.67	21.31	8.26	15.59	1.09	7.16	14.01	.69	9.29	11.48	5.08		110.63
YEL'MOUTH R	23.58	18.51	15.97	22.09	20.61	6.06	40.51	10.28	36.90	17.32	11.08		222.91
YEL'TAIL RF		.91		.14							1.70		2.75
WIDOW RF	.91	.99		.68			.49	.23	4.74				8.04
OTHER RF	1.28	.16	3.18	3.14	4.83		5.09	1.41	.40	16.18			35.67
HAKE													
OCTOPUS													
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION		.79	15.06	.62			12.85						29.32
ANIMALFOOD	.84		.85	.69	.27		34.72			.24			37.61
TOTAL	111.40	109.26	145.85	177.75	44.68	52.15	258.77	60.93	127.32	124.02	139.07		1351.20
DUMPED FISH													
DISCARDS				.64	.45	15.88				22.68	3.63		43.28

TABLE 43. 1989 BRITISH COLUMBIA TRAWL LANDINGS (T) OF GROUNDFISH FROM STATISTICAL AREA 2BW

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ENGLISH S.													
ROCK SOLE													
PETRALE S.													
DOVER SOLE													
REX SOLE													
BUTTER SOLE													
FLATHEAD S.													
SAND SOLE													
TURBOT													
STAR.FLDR													
OTHER FLAT.													
PACIFIC COD													
LINGCOD													
SABLEFISH					.21			.04			.24		.49
POLLOCK													
OCEAN PERCH	17.80		3.25	1.69	25.96			7.57	17.40	29.32	.44	8.53	111.96
BOCACCIO													
CANARY RF													
REDSTR. RF								.17					.17
ROUGHEYE RF			.36	.34	.39			.14	2.00		8.64		11.87
SIL'GRAY RF			.14	.07	.71			.11					1.03
YEL'MOUTH R								.15					.15
YEL'TAIL RF												3.36	3.36
WIDOW RF								.02					.02
OTHER RF	.10		.41	1.19				.99	.42				3.11
HAKE													
OCTOPUS													
PERCH													
SKATE													
SQUID													
STURGEON													
MISC. SP.													
DOGFISH													
REDUCTION					.25								.25
ANIMALFOOD				.80									.80
TOTAL	17.90		4.16	4.09	27.52			9.19	19.82	29.32	9.32	11.89	133.21
DUMPED FISH													
DISCARDS									11.34				11.34

OTHER GROUNDFISH FISHERIES

Groundfish landings in this category are those caught by longline, trap, handline, troll, and incidental to shrimp trawl. In 1989, these landings totalled 10,090 t, 11% below the 1988 total. Sablefish (4,869 t), dogfish (1,762 t), rockfish (1,679 t) and lingcod (923 t) accounted for 92% of the catch by other gear. Catches by main species, gear type and major area are represented in Table 44.

No effort data are available for handline, troll, longline, or incidental to shrimp trawl. The catches for these gears were obtained from British Columbia Commercial Catch Statistics 1989, by Species, Gear, Month, and Area, Fisheries and Oceans, Canada, Pacific Region.

Interviews were conducted with skippers of sablefish trap vessels to obtain catch and effort data. Total trap landings of sablefish in 1989 were 3,941 t. The main areas of production were the west coast of the Queen Charlotte Islands (area 5E), the north west coast of Vancouver Island (area 3D) and north Queen Charlotte Sound (area 5B), accounting for 33%, 32%, and 22%, respectively. Trap landings of groundfish in 1989 by major area, month and species, are presented in Tables 45-50. Eighty-eight percent (by weight) of the trap landings were covered by interviews. Table 51 shows the monitored landings, effort and CPUE by major area. A separation of the 1989 trap landings by minor area is given in Table 52. Figure 5 illustrates total trap catches (t) and monitored effort (traps) by major area.

Table 44. British Columbia landings (t, round weight) of groundfish caught by gear other than trawl in 1989 by major area and species.

Gear and species	Major area								
	4B	3C	3D	5A	5B	5C	5D	5E	Total
Handline and troll									
Dogfish	7.94	-	-	-	.83	.08	-	-	8.85
Lingcod	63.01	66.59	96.13	17.83	16.28	27.36	82.97	28.22	398.39
Pacific cod	1.41	-	-	.01	.18	-	.01	-	1.61
Pacific hake	.01	-	-	-	-	-	-	-	.01
Pacific ocean perch	.16	-	-	-	.01	-	-	-	.17
Other rockfish	371.43	30.20	51.81	27.14	42.50	15.69	50.55	5.51	594.83
Sablefish	-	.01	-	-	-	-	-	-	.01
Sole	.48	-	tr.	-	-	-	-	-	.48
Misc. species	1.89	.23	.05	-	.02	.01	.19	-	2.39
Incidental to shrimp trawl									
Lingcod	.02	1.28	-	-	-	-	-	-	1.30
Pacific cod	.11	.02	-	-	-	-	-	-	.13
Other rockfish	.10	.91	-	-	-	-	-	-	1.01
Sole	.68	-	-	-	-	-	-	-	.68
Misc. species	.05	-	-	-	-	-	-	-	.05
Longline									
Dogfish	527.44	879.41	109.96	147.60	44.17	44.66	.23	-	1,753.47
Lingcod	14.46	64.07	99.74	96.14	28.45	82.49	93.07	44.52	522.94
Pacific cod	6.15	.11	.13	.10	.77	.07	1.81	-	9.14
Pacific ocean perch	tr.	.10	.19	-	-	.01	-	-	.30
Other rockfish	88.60	117.56	246.54	169.26	94.74	130.68	143.51	92.00	1,082.89
Sablefish	-	440.99	187.06	-	101.47	105.53	.36	93.19	928.60
Sole	-	-	.19	.06	-	.32	-	-	.57
Misc. species	4.45	1.29	2.43	.61	1.64	.02	1.13	.01	11.58
Animal food	.42	-	-	-	-	-	-	-	.42
Trap									
Other rockfish	.02	-	-	-	-	-	-	-	.02
Sablefish*	-	177.49	1,273.27	324.84	865.95	2.88	-	1,296.14	3,940.57
Hagfish*	13.00	658.30	158.11	-	-	-	-	-	829.41
Total									
Dogfish	535.38	879.41	109.96	147.60	45.00	44.74	.23	-	1,762.32
Lingcod	77.49	131.94	195.87	113.97	44.73	109.85	176.04	72.74	922.63
Pacific cod	7.67	.13	.13	.11	.95	.07	1.82	-	10.88
Pacific hake	.01	-	-	-	-	-	-	-	.01
Pacific ocean perch	.16	.10	.19	-	.01	.01	-	-	.47
Other rockfish	460.15	148.67	298.35	196.40	137.24	146.37	194.06	97.51	1,678.75
Sablefish	-	618.49	1,460.33	324.84	967.42	108.41	.36	1,389.33	4,869.18
Sole	1.16	-	.19	.06	-	.32	-	-	1.73
Hagfish	13.00	658.30	158.11	-	-	-	-	-	829.41
Misc. species	6.39	1.52	2.48	.61	1.66	.03	1.32	.01	14.02
Animal food	.42	-	-	-	-	-	-	-	.42

*Sablefish catch data obtained from trip reports and may differ from Statistics Unit figures.
*Caught in smaller, Korean-style traps.

TABLE 45. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 3C SOUTHWEST COAST VANCOUVER ISLAND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH		6.39			58.21				9.77	99.67	3.45		177.49
TOTAL		6.39			58.21				9.77	99.67	3.45		177.49

TABLE 46. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 3D NORTHWEST COAST VANCOUVER ISLAND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH		19.95	74.46		403.64	294.25	246.62	104.40	125.90		4.05		1273.27
TOTAL		19.95	74.46		403.64	294.25	246.62	104.40	125.90		4.05		1273.27

TABLE 47. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5A SOUTH QUEEN CHARLOTTE SOUND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH			31.29	111.08	100.88		81.03				.56		324.84
TOTAL			31.29	111.08	100.88		81.03				.56		324.84

TABLE 48. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5B NORTH QUEEN CHARLOTTE SOUND.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH			289.91		273.73	182.22	112.29				7.80		865.95
TOTAL			289.91		273.73	182.22	112.29				7.80		865.95

TABLE 49. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5C SOUTH HECATE STRAIT.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH			2.88										2.88
TOTAL			2.88										2.88

TABLE 50. 1989 BRITISH COLUMBIA TRAP LANDINGS (MT) OF GROUNDFISH - INTERNATIONAL AREA 5E WEST COAST QUEEN CHARLOTTE ISLANDS.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SABLEFISH			271.75	127.31	527.36	237.34	112.29				20.09		1296.14
TOTAL			271.75	127.31	527.36	237.34	112.29				20.09		1296.14

Table 51. Total landings (t), monitored landings (t), and monitored effort (traps) for the British Columbia trap fleet in 1989.

Major area	Total landings (t)	Monitored landings (t)	Monitored effort (traps)	Monitored CPUE (t/trap)
3C	177.49	177.49	12,186	.015
3D	1,273.27	1,171.56	46,918	.025
5A	324.84	324.84	13,808	.024
5B	865.95	481.08	22,318	.022
5C	2.88	2.88	225	.013
5E	1,296.14	1,296.14	42,714	.030
Total	3,940.57	3,453.99	138,169	.025

Total trap catch (t) and monitored effort (traps) by major area in 1989

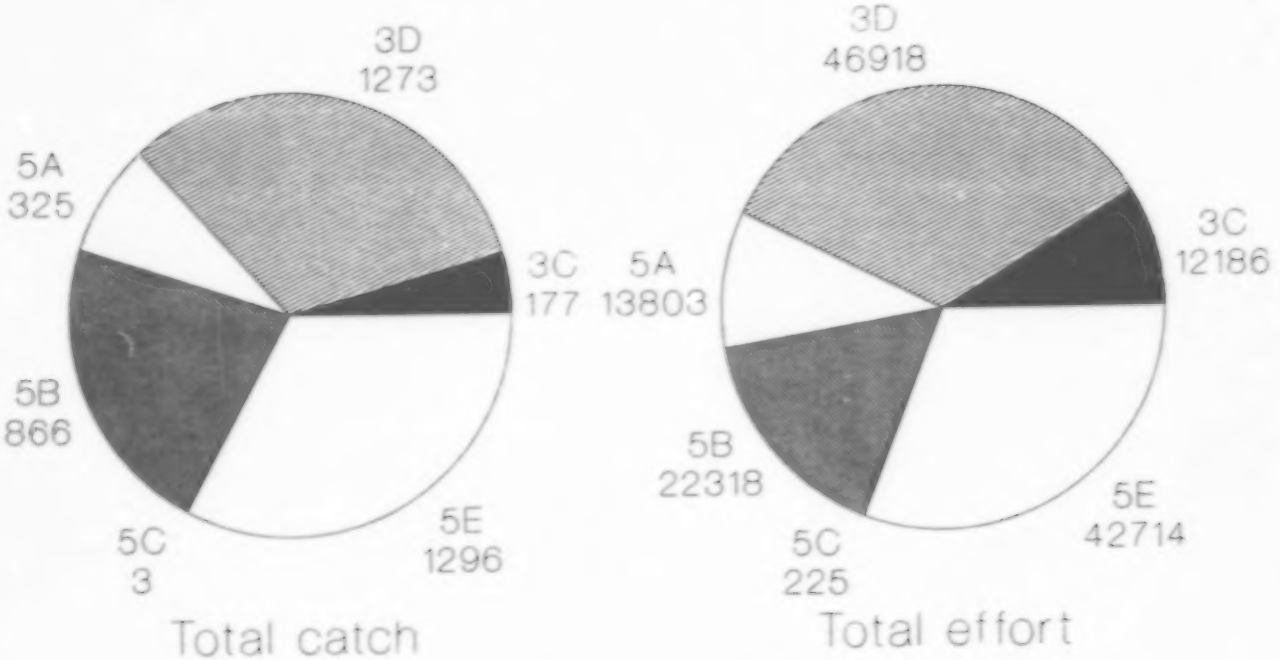

Figure 5.

Table 52. British Columbia trap landings (t) by species and minor area in 1989.

	Minor area						
Species	21	23	24	25	26	27	11
Sablefish	15.96	151.76	9.77	202.81	21.06	1,049.38	324.84
Total	15.96	151.76	9.77	202.81	21.06	1,049.38	324.84

	Minor area					
Species	8	2BE	1W	2AW	2BW	Total
Sablefish	865.95	2.88	20.56	692.16	583.42	3,940.55
Total	865.95	2.88	20.56	692.16	583.42	3,940.55

JOINT-VENTURE/FOREIGN FISHERIES

Since 1978, Canadian trawlers have participated in joint-venture fisheries. Canadian catcher vessels deliver Pacific hake and incidental species to foreign processing vessels in cooperative fishing arrangements. These fisheries take place off the southwest coast of Vancouver Island (Area 3C). These data are separated from the domestic landings because the joint-venture and foreign catches (converted from processed weight) are reported by the foreign processing vessels and cannot be verified by weight tallies. These data were collated and tallied by the Offshore Division of Fisheries Branch in Vancouver.

In 1989, twenty-six Canadian catcher vessels delivered Pacific hake and incidental species to twenty-two processing vessels. A total of 66,102 t of Pacific hake was processed by fourteen Polish vessels, six Soviet vessels, and two Japanese vessels.

Other countries have conducted fisheries for Pacific hake off the southwest coast of Vancouver Island for several years. Several of the processing vessels involved in the joint-venture fishery occasionally fish directly (supplemental fishing) when Canadian domestic vessels cannot supply sufficient quantities of Pacific hake. This supplemental catch is added to the national catch.

Thirteen Polish and six Soviet vessels caught 29,600 t of Pacific hake during the national fishery in 1989. Sixteen of the processing vessels caught 1,977 t of Pacific hake during supplemental fishing.

The joint-venture and foreign catches of groundfish for 1989 are presented in Table 53.

Table 53. Joint-venture and foreign catches* (t) of groundfish from international Area 3C -- southwest coast of Vancouver Island in 1989.

Nation and species	Joint-venture	National	Supplemental	Total
Poland				
Pacific hake	26,252	16,862	1,392	44,506
Walleye pollock	413	3	2	418
Pacific ocean perch	6	117	12	135
Other rockfish	113	808	115	1,036
Other species	1	-	-	1
USSR				
Pacific hake	26,870	12,738	585	40,193
Walleye pollock	338	3	tr.	341
Pacific ocean perch	1	67	tr.	68
Other rockfish	113	82	13	207
Other species	tr.	-	-	0
Japan				
Pacific hake	12,980	-	-	12,980
Walleye pollock	11	-	-	11
Pacific ocean perch	-	-	-	0
Other rockfish	20	-	-	20
Other species	-	-	-	0
Total				
Pacific hake	66,102	29,600	1,977	97,679
Walleye pollock	762	6	2	771
Pacific ocean perch	7	185	12	204
Other rockfish	246	890	127	1,263
Other species	1	0	tr.	1

*Catches (converted from processed weight) are reported by foreign processing vessels and cannot be verified by weight tallies.

CATCHES BY INPFC AREA

This report is also produced to satisfy requirements of committees of the International North Pacific Fisheries Commission (INPFC) (Canada, Japan, and United States). To complement the previous tables, groundfish landings in metric tonnes (t) are presented in Tables 54-56 for trawl and other gears according to INPFC areas. The relationship between these INPFC areas and the major areas used in the first portion of this report is as follows:

INPFC	Major area	Latitude
Charlotte	5A, 5B, 5C, 5D, 5E[5]	50°30'N - 54°30'N
Vancouver	3B, 3C[6], 3D, 4B[7]	47°30'N - 50°30'N

[5] Northernmost 10 miles actually in Southeastern
[6] Southernmost 10 miles actually in Columbia
[7] Inside waters (Strait of Georgia)

Table 54. British Columbia landings[a] (t) of groundfish taken by all types of gear in 1989 by INPFC area

Species	INPFC area		Total
	Vancouver	Charlotte	
English sole	162.02	879.45	1,041.47
Rock sole	254.37	1,812.09	2,066.46
Petrale sole	562.88	389.48	952.36
Dover sole	1,320.57	828.21	2,148.78
Rex sole	4.77	134.73	139.50
Starry flounder	83.63	39.37	123.00
Turbot	71.82	537.54	609.36
Other flatfish	20.54	29.90	50.44
Pacific cod	3,600.32	5,549.05	9,149.37
Lingcod	1,555.19	2,424.55	3,979.74
Sablefish	2,519.37	2,973.19	5,492.56
Pollock	407.97	34.68	442.65
Hake	8,681.60	-	8,681.60
Pacific ocean perch	1,267.79	4,736.05	6,003.84
Other rockfish	6,687.95	11,749.52	18,437.47
Misc. species	31.09	140.79	171.88
Dogfish	2,509.18	270.49	2,779.67
Hagfish	829.41	-	829.41
Animal food	2.04	124.49	126.53
Reduction	206.13	146.79	352.92
Total	30,778.64	32,800.37	63,579.01

[a]Does not include catches from joint-venture or foreign fishery, see Table 53.

Table 55. British Columbia domestic trawl landings (t) of groundfish in 1989 by INPFC area.

Species	INPFC area		Total
	Vancouver	Charlotte	
English sole	162.02	879.45	1,041.47
Rock sole	254.37	1,812.09	2,066.46
Petrale sole	562.88	389.48	952.36
Dover sole	1,320.57	828.21	2,148.78
Rex sole	4.77	134.73	139.50
Starry flounder	83.63	39.37	123.00
Turbot	71.82	537.54	609.36
Other flatfish	19.19	29.52	48.71
Pacific cod	3,592.39	5,546.10	9,138.49
Lingcod	1,149.89	1,907.22	3,057.11
Sablefish	440.55	182.83	623.38
Pollock	407.97	34.68	442.65
Hake	8,681.59	-	8,681.59
Pacific ocean perch	1,267.34	4,736.03	6,003.37
Other rockfish	5,780.78	10,977.94	16,758.72
Misc. species	20.70	137.16	157.86
Dogfish	984.43	32.92	1,017.35
Animal food	1.62	124.49	126.11
Reduction	206.13	146.79	352.92
Total	25,012.64	28,476.55	53,489.19

Table 56. British Columbia landings (t) of groundfish caught by gear other than trawl in 1989 by INPFC area.

Gear and species	INPFC area		Total
	Vancouver	Charlotte	
Handline and troll			
Dogfish	7.94	.91	8.85
Lingcod	225.73	172.66	398.39
Pacific cod	1.41	.20	1.61
Pacific Hake	.01	-	.01
Pacific ocean perch	.16	.01	.17
Other rockfish	453.44	141.39	594.83
Sablefish	.01	-	.01
Sole	.48	-	.48
Misc. species	2.17	.22	2.39
Incidental to shrimp trawl			
Lingcod	1.30	-	1.30
Pacific cod	.13	-	.13
Other rockfish	1.01	-	1.01
Sole	.68	-	.68
Misc. species	.05	-	.05
Longline			
Dogfish	1,516.81	236.66	1,753.47
Lingcod	178.27	344.67	522.94
Pacific cod	6.39	2.75	9.14
Pacific ocean perch	.29	.01	.30
Other rockfish	452.70	630.19	1,082.89
Sablefish	628.05	300.55	928.60
Sole	.19	.38	.57
Misc. species	8.17	3.41	11.58
Animal food	.42	-	.42
Trap			
Other rockfish	.02	-	.02
Sablefish	1,450.76	2,489.81	3,940.57
Hagfish	829.41	-	829.41
Total	5,766.00	4,323.82	10,089.82

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